FREE

Southern California's Computer Magazine

July 12, 1993 • #111

MICROTIMES™

SOLID STATE
MASS STORAGE
SYSTEM
SUNDISK
14,400/14,400bps
PCMCIA 2.0
Data/Fax Modem

PCs AT HEWLETT-PACKARD

Rediscovering The HP Way

"Hewlett-Packard has been a company for fifty-four years. Just saying 'Hewlett-Packard' means certain things to people—great products, well-designed and -engineered products, great quality and reliability. We're trying to impress on our customers now that it means all those things at a reasonable price."

—Boris Elisman, Manager, Product Marketing & Programs, Desktop Personal Computers

Announcing MicroMarketplace

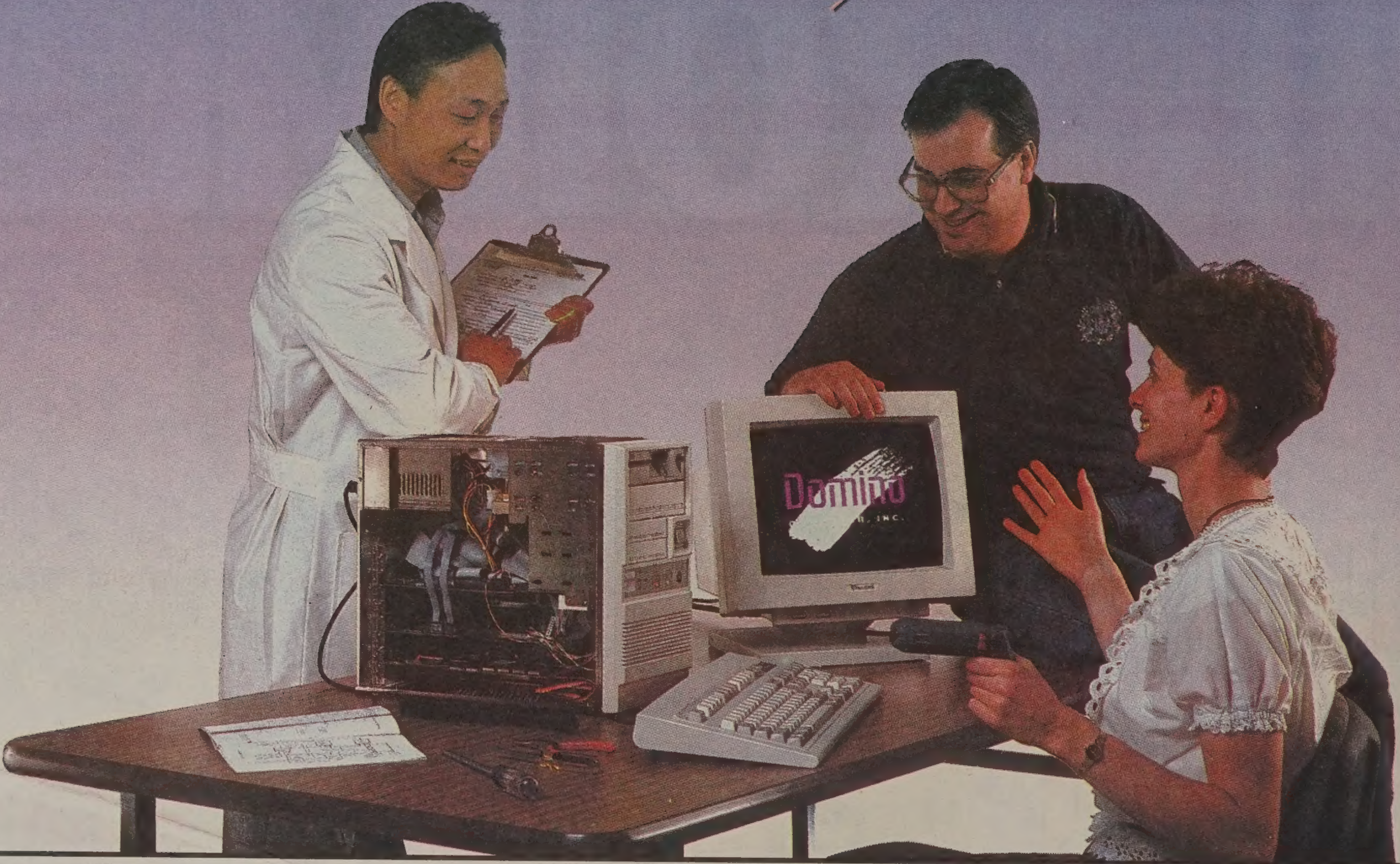
A NEW SECTION BEGINNING ON PAGE 59

SPECIAL SECTION INSIDE!

MultiMedia & Beyond

In This Issue: Amiga Tools; Rock & Roll; SIGGRAPH Preview

You Build Your Own Computer



Grand Opening
Claremont
909-482-4600
Build any system and get "Build Your Own Computer" Video
FREE

DO IT YOURSELF–AND SAVE!

Install and Configure or Repair Your Own Computer — With Us!
IT'S EASY — In a test done by "Dvorak On Computer" with anchor Leo Laporte, a 486/50 computer was built by Mr. Laporte in our center in 1 hour. Visit one of your 30 convenient California locations and see what everyone is talking about!

SPECIAL
386/40
$108

NEW LOCATION
Thousand Oaks
805-374-8806
Free Mouse & Mouse Pad for Each System Built!

LIFETIME WARRANTY

on labor for the computer you build for as long as you own it!
You can go to any of the 30 Domino locations for service.

MADE IN USA

Refurbished
Laser Printer Toners
Buy and Sell
Call for Price

DOMINO VLEISA 486 Motherboard

ALLBUS design: 1 VESA Local bus, 3 EISA bus, 4 ISA bus.
If you are looking for V-L or EISA, this board is for you.

486/33/128k cache	**$525**
486/66/128k cache	**$785**
EISA IDE Controller	**$CALL**

MADE IN USA

DOMINO MPC Motherboard

Audio on board, supports Windows 3.1, WAV sound, Access software, etc. Upgradeable using ZIF socket.

486SX/25	**$278**
MPC Case with speaker	**$150**

BUILD-YOURSELF VGA SPECIAL

- Build a 486DLC/33 MHz/128k SVGA System w/4MB, 2 Floppy Drives, 170MB Hard Disk, 2 Serial, 1 Parallel, 1 Game Ports **$999**

EVERYDAY LOW PRICES

486 VL Motherboard, 128K Cache, 3 VL Slots

386SX/25	**$220**
486DX/33	**$445**
486/DX2/66	**$695**
Mr. Modem 14.4/14.4 Fax/Data (Comes with BITFAX/OCR, a $59 Value)	**$148**
Mr. Modem 96/24 Fax/Data	**$39**
Mr. Monitor SVGA .39/.28/.28NI	**$199/$256/$285**
Mr. Monitor 15" SVGA .28 NI	**$410**

ACCESSORIES

1.2MB or 1.44MB Floppy Drive	$53/44
Dual Fan Full Size Vertical Case w/250W PS	$110
Domino Mouse (3 button) with Mouse Pad	$15
True Color (16 million color 1MB) SVGA Card	$65$155
BitFax/OCR (Turn Fax into editable copy)	$59
Sound Galaxy BX w/Speakers (Soundbalster & Adlib Comp.)	$69
SONY Internal CD-ROM w/CD Software	$332
Mitsumi Internal CD-ROM w/CD Software	$289
486/33/80MB Notebook (Color LCD)	$2648
Hard Disks & More	$CALL

Prices subject to change without notice. Not responsible for typographical errors.
386, 486, SX are trademarks of Intel Corp.
100% FINANCING AVAILABLE

IRVINE
17145 Von Karman Ave.
Ste. 106
Irvine, CA 92714
714/252-8494
Corner of McGaw & Von Karman

PASADENA
1270 Lincoln Ave.
Ste. 1600
Pasadena, CA 91130
818/398-0111
2 blocks South of Highway 210

YORBA LINDA
3890 Prospect Ave. Ste. C
Yorba Linda, CA 92686
714/579-0808
Imperial Hwy. & Prospect
Between Rose & Bastanchury
OPEN SUNDAY BY APPT.

CANOGA PARK
22330 Sherman Way, C7
Canoga Park, CA 91303
818/340-7490
Hwy. 101 exit at Shoup Ave.
Corner of Shoup & Sherman
OPEN SUNDAY

NEW LOCATION
CLAREMONT
975 West Foothill Blvd.
Claremont, CA 91711
909/482-4600

CULVER CITY
4911 Sepulveda Blvd.
Culver City, CA 90230
310/313-4540
Between Washington & Jefferson
OPEN SUNDAY

THOUSAND OAKS
670 E. Thousand Oaks Blvd.
Thousand Oaks, CA 91362
805/374-8806
OPEN SUNDAY

FOUNTAIN VALLEY
11247 Slater Ave.
Fountain Valley, CA 92708
714/557-6666
First block East of Euclid

TORRANCE
2535 237th St., Ste. 102
Torrance, CA 90505
310/325-9701
1 blk west of Crenshaw Blvd.
OPEN SUNDAY BY APPT.

SANTA CLARITA
Coming Soon

We have 21 Northern California Stores Call 800/22DOMINO for store locations.

Domino®
COMPUTER SELF SERVICE CENTERS

Americal Group's Sherman Oaks Storewide...

SIZZLIN' SUMMER SUPPLY

Save Time! Each Disk 100% Tested &

69¢

1.44MB HD Formatted

49¢

720 KB DD Formatted

Backup Tapes

3M DC 600A data cartridge tape
3M DC 2000 mini data cartridge tape

DC2120

$18.87

SyQuest Carts

SyQuest 88 MB/$109.95

$69.95

44 MB
Qty 3

Backups

Colorado 120MB	$155
Colorado 250MB	219
Trakker 120MB	289
Trakker 250MB	399
1.44MB Floppy Drive	52
2.88MB Floppy Drive	99
120MB Hard Drive	199
170MB Hard Drive	239
200MB Hard Drive	279

CD-ROMs

Multimedia kit	$459.00
CD-Rom	$245 & up

Call for CD-Rom Titles!

Mice

MS Compatible	$21.95
Cordless	79.95
Logitech	89.95
Ergonomic	64.95
Stationary T.B.	99.95
Mini Mouse	99.95

Keyboards

101 Keyboard	$29.95
Waterproof KB	39.95
Omni KB	49.95
KB w/ Track B	85.95

Disks, Carts

3.5" DSDD FMTD	49¢
3.5" DSHD FMTD	69¢
5.25" DSDD Qty 50	25¢
5.25" DSDD Qty 50	39¢
DC2000	$15.95
DC2120 120/250MB	19.95
DC2120X 250MB	24.95
DC600A	18.87
DC6250	22.95
DC6320	29.95
DC6525	31.95
Magnus 1.2	38.95
5.25" Optical	119.95
3.5" Optical	49.95

Fax Paper

$2.99 Ea

98 Ft Rolls
Qty 6

Paper

Fax paper 98Ft	$2.95
Lasercut 1000 sheet	9.95
Lasercut 2500 sheet	18.95
Laser Printer 1000 sheet	9.95

Laser Toner

$69.95

for HP III
Qty 3+

Laser Toner & Cart's

HP 92298A	$109.95
HP 92295A	74.95
HP 92291A	129.95
HP 92285A	79.95
HP 92275A	69.95

HP 51608A Deskjet	$17.95
HP 51626A High Cap	29.95
HP 51606A Paintjet	17.95
Canon BC-01 Stylewriter	24.95
Refills	$19.95 & Up

Superfast!

486DX-33

Local Bus

$1399

- 4 MB RAM, 256K Cache
- 170 MB 15ms IDE Hard Disk
- Local Bus Windows Accel. 1 MB, 1024x768, SVGA-NI
- 14" SVGA-NI, Anti-glare
- 101 Keyboard & Mouse
- 1.2 &1.44 MB Floppy Drive
- Mini-vertical case, 230W

Office Power!

486SX-33

Sales Station

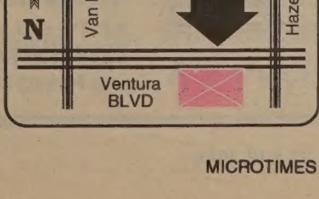
$899

- 2 MB RAM
- [illegible] MB 17ms IDE Hard Disk
- Super VGA 1 MB Video
- 1024x768 Resolution
- 14" Super VGA Color Monitor
- 101 Keyboard & Mouse
- 1.44 MB Floppy Drive
- Desktop case, 230W

HP Laser Printers ,Epson & Okidata rinters available

AMERICAL GROUP

14200 Ventura Blvd • Sherman Oaks
Between Hazeltine & Van Nuys Blvds
Monday-Fridays 9-6, Saturdays 10-6
Tel 818-906-1132 Fax 818-906-1488



VISA MasterCard DISCOVER AMERICAN EXPRESS

Schools, Fortune 500
& Gov't P.O.'s Accepted!

CLEARANCE

HP D2045A 120MB Internal Tape Backup, DC2000 & Software
$200

2 Button Mouse & Software
$19.95

2400/9600 Fax Modem Internal
$59

day tech

Extended Systems®

SHARING PRODUCTS

ESI-3210A II, IID, III, IIID, 256K Buffer, 4 PC's	$590
ESI-3212A II, IID, III, IIID, 256K Buffer, 8 PC's	690
ESI-3240A IIISi or LaserJet 4, 4 PC's	590

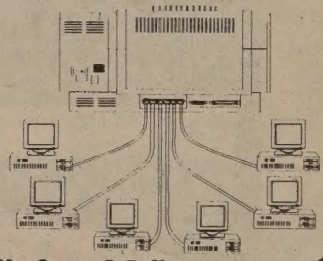
Upgrade Buffer Available

NOVELL NETWORK SPECIALISTS

NETWORKING MADE SIMPLE-EVEN YOU CAN INSTALL IT!

ASP NETWORK SOLUTIONS

JetLAN JLS 200 Twisted Pair, RJ45, 10 Base-T	**In Stock**
ServerJet Internal, 4-10 Input Cables, 256K for LaserJet 4, 4M, IIISi, 4Si	**CALL**
ServerJet Internal, 4-12 Input Cables, 256K for LaserJet II, IID, III, IIID	**CALL**



We Carry A Full Product Line Call For Information

NOTEBOOKS

TOSHIBA

T1850
4MB Ram
120MB $1429

T4400C
Color
120MB $3299

T1900
4MB RAM
80MB $1645
120MB $1790
200MB $1990

T4500
80MB $1850
120MB $2100

FREE Targus Carrying Case! While Supplies Last

IBM ThinkPad700/720 700C/720C

Color Notebook
120MB, 4MB Ram
1.44MB floppy, VGA

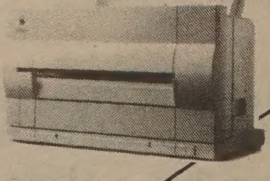
EPSON®

LX810, 9 pin narrow	189
LQ1070, 24 pin, wide	390
Action laser 1000	690
Action laser 1500	720
EPL 8000 laser	869
LQ 570 plus	265

Apple® Printers

Select 300 LaserWriter	$745
LaserWriter Pro 630	2390
Stylewriter II	320
LaserWriter II NTX	2190

We carry a full line of Apple Printers & Accessories

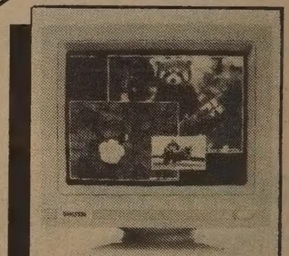


CD ROM-JUKEBOX

NEC CDR-74-1 SCSI II Interface, 256K Cache, Kodak multi-session photo CD, Includes XT/AT Interface **$699**

TOSHIBA TXM-3401 SCSI II Interface, 256K Cache, Kodak multi-session photo CD, Includes XT/AT Interface

Internal $650 • External $690



MONITORS

Samtron SC44IV 14" .41mm dot pitch VGA monitor	$249
Samtron SC428TX 14" .28mm dot pitch non-interlaced SVGA monitor	349
NEC 3FGX 15"	625
NEC 4FG 15"	1260
ViewSonic 6 14"	355
Sony 1604S 17"	989
Cornerstone Technology 19" dual page monochrome, including interface board	1490

day tech

All International Orders Are Accepted
We ship Federal Express or DHL

COMPUTER CENTER

(213) 463-3001
(800) 447-3331
Fax (213) 469-7255

6314 Hollywood Blvd. (at Vine), Los Angeles, CA 90028
Free Parking in rear with validation. Prices subject to change without notice..

IBM NEC OKIDATA SONY
Authorized Dealer

HP CALCULATORS

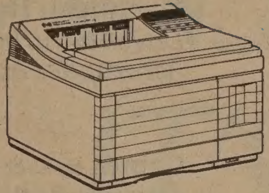
HP 48S	$145
HP 95LX, 512K	399
HP 95LX, 1 MB	599
HP 19BII	140
HP 17BII	99
HP 10B	34
HP Infra Red Printer	120

HP 100LX

Palmtop computer
DOS 5.0
CC:Mail
Lotus 1-2-3 release 2.4
Appointment, phone book & many more

IN STOCK
$690

LaserJet 4, 1200 DPI



Windows driver for fastest printout
8PPM
49 scalable fonts built-in
50 true type fonts
Postscript language interpreter
300, 600, 1200 dpi
Toner & cable included
LaserMaster WinJet 1200

CALL

FANTASTIC CAMERA READY OUTPUT!

HP PLOTTERS

DraftPro Plus Series
A-D size media
1MB buffer
Single sheet feed

DesignJet 600
A-D or A-E size media
600 dpi resolution
E size complex plot in less than 6 minutes

A-E size media
1MB buffer
8 pen selection

DesignJet 650C
Monochrome/color plotter,
600 dpi,
A-D or A-E size medida
Postscript & Mac interface optional

FREE DROPSHIP WITH ANY PREPAYMENT
Call for Educational Discount!

30 Day FREE Evaluation

Call for $1000 Trade-In

HP PLAIN PAPER FAX

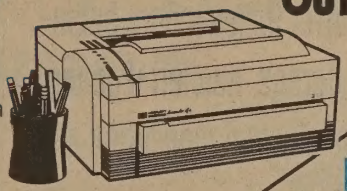
HP LaserJet Fax
Signature quality
Fax from paper/PC
Requires LaserJet printer
$875

HP Fax 200
InkJet laser quality
100 page capacity
12 secs per page
12 pages standard memory
$940

HP Fax 310
InkJet laser quality
100 page capacity
28 page standard memory
$1260

Best Plain Paper Fax In The World!

LaserJet 4L

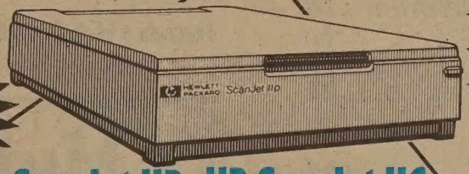


300 dpi
4PPM
26 scalable fonts
Automatic on/off switch
IN STOCK
$680

Eligible Products For HP Test Drive

- ★ **HP Desktop Scanners**
- ★ **Vectra Computers**
- ★ **DesignJet 600, 650C Drafting Plotters**
- ★ **Optical Jukebox, Storage**
- ★ **LaserJet 4si, 4si mx**
- ★ **IBM/Apple Compatible**
- ★ **DeskJet 1200C Color Printer**
- ★ **Fax 200, Fax 310 Plain Paperfax Machine**

1. 30 Day Free Evaluation & Free Dropship
2. Free Product Pick Up If You Decide Not To Keep It
3. If You Want To Test Drive Product, Pay On The 30th Day



HP ScanJet IIP
256 level gray scales
Mac or IBM interface
$799

HP ScanJet IIC
256 level gray scale
24 bits color recognition
Mac or IBM interface
$1290

Automatic Document Feeder IIP (20pg)/IIC (50pg)..... $280/450

DESKJET/DESKWRITER

IBM/Apple Compatible

DeskJet 1200C
Up To 7PPm
PCL5 300x300 Color Printer
2MB Standard, Up To 26MB
Postscript, Auto Lang. Switch
Option, 45 Internal Scalable Fonts
CALL

500
2ppm
scalable fonts
$359

500C
B/W & color
2ppm
1 cartridge at a time
$480

550C
2 cartridge slots
2ppm
10 envelope feeder
$680

3 Year Warranty

HP Omnibook 300PC
w/10mb HD Flash • Sub Notebook size
Under 3lb. w/battery •Full size keyboard
ROM Based Windows, Word, Excel
w/1 Key Access • Pop Up Mouse Installed
CALL

HP Omnibook 300C
w/40MB HD
Sub Notebooksize
Under 3lb w/battery
Full Size Keyboard
ROM Based Windows,
Word, Excel
w/1 Key Access
Pop Up Mouse Installed
CALL

All International Orders Are Accepted
We ship Federal Express or DHL

COMPUTER CENTER

(213) 463-3001
(800) 447-3331
Fax (213) 469-7255

HEWLETT PACKARD
Authorized Dealer & Service Center

6314 Hollywood Blvd. (at Vine) , Los Angeles, CA 90028
Free Parking in rear with validation. Prices subject to change without notice.

JULY 12, 1993 ISSUE #111
MICROTIMES

Editorial
(510) 934-3700
Advertising
(213) 851-8600 (714) 939-2809

TABLE OF CONTENTS

A NOTE FROM THE EDITORS

Fifty-five years ago when Bill Hewlett and Dave Packard founded a little startup in a Palo Alto garage and began selling electronic equipment to Disney, they probably didn't envision HP in its current state; but they established an ethos and a corporate culture that's served the company well as it evolved. In this month's cover story, assistant editor Michael Robin talks with Boris Elisman of the Desktop Personal Computers division about The HP Way, '90s style.
—ME

Micro Marketplace, A Special Advertising Section For Southern California Computer Buyers, starts on Page 59.

COVER STORY

EVOLVING THE HP WAY

BY MICHAEL ROBIN.................................50

Cover Photo: Paul Winternitz

Almost fifty-five years after its legendary beginnings in Bill And Dave's Garage, Hewlett-Packard finds new levels of technological innovation and customer responsiveness.

NEWS & VIEWS

Industry Insight *By Paul Hoffman*....................12
Flat-Panel Display Tariff Lifted....................12
Laptop Computer Boom....................12
Energy Star Power Conservation Program..18
MicroTimes Stock Index....................20

Realizable Fantasies *By Jim Warren*....................22
Further adventures in Sacramento.

Dvorak's Last Column *By John C. Dvorak*....................162
Dvorak visits a parallel universe.

BUSINESS SOLUTIONS

Pens & Palmtops *By Mitsu Hadeishi*....................27
Sony's electronic book player.

Laptops *By Ed Kahn*....................35
Canon's 486 NoteJet.

Telecommuting Gains Popularity
By Robert Moskowitz....................36
California agencies look at ways to cut costs through telecommuting.

FEATURES

BMUG *By David Morgenstern*....................43
Performance art and trashcans.

High-Tech Pens For Law Enforcement
By John Wolcott....................49
Orange County Sheriff's Department experiments with pen-based computers.

PRODUCT SPOTLIGHT

Product Updates....................79

New Products

Network Hardware

HUB-820T Ethernet Repeater....................79

Macintosh Hardware

DayStar Turbo 040 For IIsi....................79
Accomplice Accelerator For IIsi....................79

Reviews

Games *By Mike Markowitz*

Decisive Battles Of The Civil War....................80
Chess Maniac's 5 Billion And 1....................87
The 7th Guest....................93

Scanner Review

ReadStation OCR....................102

RESOURCES

Calendar Of Events....................110
Computer Show—Pomona....................110
Fourth Annual Macintosh Summit....................110
Computer Show & Sale—Industry....................110

User Group Network....................119
BBS Column: The Drop Zone!

Classifieds....................156

Index Of Advertisers....................160

MultiMedia & beyond

Multimedia & Beyond....................133

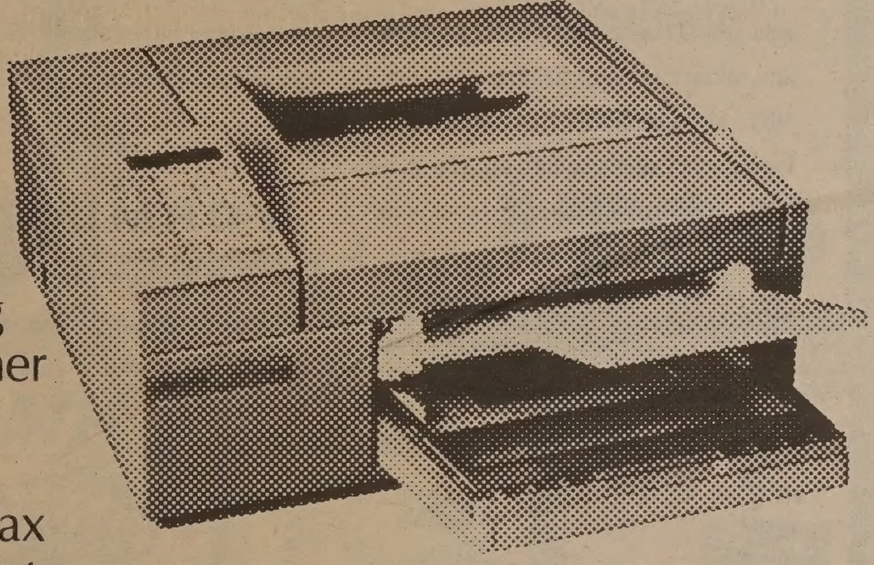
Amiga Multimedia Tools
By Douglas J. Nakakihara....................135
Concluding a two-part overview of software options.

Preview: SIGGRAPH 93....................144
The graphics showcase comes to Anaheim with exhibits, conferences, and demos on subjects from development tools to virtual reality.

So You Want To Be A Rock And Roll Star *By Jonathan E.*....................147
Interactive CD-ROM for budding musicians. New products advance the state of the art.

IT PRINTS. IT FAXES. IT COPIES. IT EDITS. IT SCANS.

IT'S HERE.



It's DOC•IT by Okidata. With DOC•IT, you can receive, create and communicate presentation-quality documents from start to finish, without getting out of your chair. (It fits on the corner of your desk.)

Check these features:

- Electronic and plain-paper fax
- Professional-quality LED printer, 300 or 400 dpi models
- Convenience copier
- Combination high-resolution document feed and hand-held scanner
- Windows™-based graphical user interface, also DOS-compatible

DOC•IT™ BY OKIDATA®

	RETAIL PRICE
DOC-IT 3000	**$3299**
DOC-IT 4000	**$3799**

Software Supermarket
12037 Wilshire Blvd.
Los Angeles, CA 90025
310-473-9550

Unitek Computer
12024 Wilshire Blvd.
Los Angeles, CA 90025
310-820-2400

Microage Computer Center
4820 S. Eastern Ave., Ste. C
Commerce, CA 90040
213-728-9747

MicroTrends International
1010 S. Arroyo Pkwy., #5
Pasadena, CA 91105
818-799-4556

Wizard of Osz
9701 Mason Ave.
Chatsworth, CA 91311
818-709-6969

Data Systems West
21101 Oxnard St.
Woodland Hills, CA 91367
818-883-9800

Infotronics Computers
315 E. Main St.
Alhambra, CA 91801
818-282-6110

Windows is a T.M. of Microsoft Corp. DOC•IT is a T.M. and OKIDATA is a Reg. T.M., of Oki Electric Industry Co., Ltd.

Turn your mouse into a lion.

This is no mere mouse pad you're looking at. It's the new Forminco Mouse Arena,™ and it makes you a better mouser in several ways. The fully adjustable glove leather palm rest *(1)* carries the weight of your forearm, taking musculoskeletal stress off the elbow, shoulder and neck so you can work longer hours more comfortably. The Mouse Arena also angles your wrist properly to help prevent Carpal Tunnel Syndrome; a potentially serious problem that concerns many computer users. The cord control system *(2)* lets you forget cord tangles. The Tyron™ tracking system *(3)* keeps your mouse accurate and clean. And *seven* separate feet *(4)* keep your Mouse Arena in place on any surface. Pick up your own Mouse Arena today... and get roaring.

FORMINCO

The Mouse Arena™ is available from the IBM Order Center (1-800-3-IBM-OS2) and other fine dealers.

NEW & USED COMPUTER SYSTEMS

Networks • Workstations • Stand Alones
PC-AT-386-486 Systems & Parts
Personal • Business • Home • Office
Upgrades & Trade-ins Available
Electronic Components • Wholesale Prices

REPAIR SERVICE
• Service Contracts
• On Site & Depot Repair

HACKER ELECTRONICS (818) 882-7980
21016 Devonshire • Chatsworth, CA

MICROTIMES CONTRIBUTORS

John C. Dvorak is a widely syndicated columnist and a seasoned traveler to parallel universes.

Jonathan E. writes about world music for our sibling publication, *BAM.* He's been working with desktop multimedia since 1968.

Mitsu Hadeishi is the founder of Open Mind, a San Diego-based software company.

Paul Hoffman is an industry analyst who's been writing about microcomputer technology for ten years, and is the author of several books on computer-related topics.

Ed Kahn is a writer and consultant based in the San Fernando Valley.

Mike Markowitz works in computer support at a major Southern California university.

David Morgenstern is a BMUG volunteer and works in the library at San Francisco State.

Robert Moskowitz is a business consultant based in Woodland Hills. He writes frequently on productivity, office automation, and technology.

Douglas J. Nakakihara is an Amiga zealot who works as a CPA when he's not chasing down the latest cool technology.

Jim Warren founded assorted time-honored institutions of the computer industry and currently serves on Autodesk's board of directors.

John Wolcott is a free-lance writer for hardware and software documentation. He lives in Orange County.

MACINTOSH FACTORY CLOSEOUT!

Apple® Macintosh®
LC II 4/80

Authorized Reseller

Macintosh
LC II

WITH 80 MEG HARD DRIVE & 4 MEG RAM!

Includes the LCII CPU
with 68030 microprocessor
- 16 MHz speed
- 4 MEG RAM
- 80 MEG Hard Drive
- 3.5" Floppy Drive
- Mouse
- VRAM for color capability, sound capabilities

Most affordable color system!
Keyboard & monitor not included

~~$1699~~

SAVE 48%

$888

Apple® Macintosh®
Classic® II 4/40

Authorized Reseller

Macintosh
Classic II

40 MEG HARD DRIVE KEYBOARD & MONITOR!

Includes the Classic II CPU
with 68030 microprocessor
- 16 MHz speed (twice the power of the original Classic)
- A full 4 MEG RAM
- 40 MEG Hard Drive
- 3.5" Floppy Drive
- Keyboard
- Mouse
- Monitor
- the ideal entry-level personal computer!

~~$1699~~

SAVE OVER 50%

$799

IBM
VALUE POINT
386 SLC/25MHz

- 386 SLC processor with 25MHz
- 2 Meg RAM
- 80 MEG HARD DRIVE
- Built in SVGA graphics
- Keyboard
- Mouse
- 3.5" Hi density floppy drive
- DOS 5.0 included!

$999

Apple® Macintosh® Powerbook™ 170
4/40

Macintosh
PowerBook 170

An all-in-one design featuring
- A 68030 microprocessor
- With 25MHz speed
- A full 4 MEG RAM
- 40 MEG Hard Drive
- Built in Monitor
- Trackball
- Standard-size keyboard

~~$4599~~

$1799

HURRY ONLY 15 LEFT!

AMIGA

NEWTEK VIDEO TOASTER®

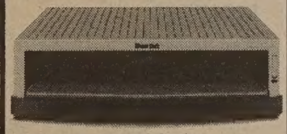
AND

ATARI®

IN STOCK!

Apple® Macintosh Duo!™ Dock!

On-the-spot **rebates.**
On-target **solutions.**



- Supports external displays
- Optional 68882 math coprocessor
- Two Nubus™ slots
- Supports six SCSI devices
- Adds the power and expandability of a desktop to your portable Macintosh Duo™

Everyday low price **1049***
On the spot Rebate **-150**

$899*

*With purchase of Duo 210 and extended keyboard @$129.

Apple® Macintosh® Powerbook Duo!™
210 4/80

Macintosh
PowerBook
Duo 210

On-the-spot **rebates.**
On-target **solutions.**

- Featuring a 68030 microprocessor
- Running at 25 MHz
- 4 MEG RAM
- 80 MEG Hard Drive and Keyboard and Monitor and trackball
- Works with advanced desktop docking station

Everyday low price **1299***
On the spot Rebate **-100**

$1199*

*With purchase of Dock and extended keyboard @$129.

GOODMAN MUSIC

MASTERCARD, VISA
DISCOVER, AMERICAN EXPRESS,
OPTIMA, DINERS CLUB, ROLAND
CREDIT, EASY FINANCING O.A.C

UNIVERSAL CITY (213) 845-1145 or (818) 760-4430
3501 Cahuenga Bl. West
(Lankershim Exit off Hollywood. Fwy.-Turn Left)

WEST COVINA (818) 967-5767
544 Azusa Ave.
(1 Block North of 10 Fwy.)

WEST SIDE (310) 558-5500
4204 S. Sepulveda Blvd.
(Culver Exit off the 405 Fwy.)

ANAHEIM (714) 520-4500
1676 W. Lincoln
(Corner of Lincoln & Euclid)

D.A.E.C. INC.

9015 ETON AVE. UNIT #B
CANOGA PARK, CA 91304

FAX: (818) 772-6887
TEL: (818) 772-7871

Business Hours:
Mon. - Fri. 9:00-6:00
Sat. 10:00-

CHECK US OUT!

intel inside

POPULAR BRAND NAME PRODUCTS, LOWEST PRICES

SUMMER SPECIAL

TRIDENT 256K SVGA CARD
101 ENHANCED KEYBOARD
1M RAM
1.44 FD
80MB HD(MAXTOR/CONNER)
SUPER MULTI I/O 2S, 1P, 1G
14" .28 SVGA MONITOR
MINI TOWER CASE

386 SX-40 ...$710
386 DX-40 ...$745
486 SX-25 ...$785

DELUXE SERIES

INTEL CPU/BUILT-IN COPROCESSOR
W/256K FAST CACHE
1M VGA CARD
101 ENHANCED KEYBOARD
4M RAM
1.2, 1.44 FD
170MB HD (MAXTOR/CONNER)
SUPER MULTI I/O, 2S,1P,1G
14" .28 SVGA MONITOR
HIRES MOUSE

486 DX-33 ... $1258
486 DX-50 ... $1426
486 DX/2-66 ...$1502

PROFESSIONAL SERIES

INTEL CPU/BUILT-IN COPROCESSOR
W/256K FAST CACHE
GENOA LB MOTHERBOARD
GENOA LB 1MB SVGA WIN ACC CARD
101 ENHANCED KEYBOARD (DELUXE)
8M RAM
1.2, 1.44 FD
345MB HD (MAXTOR/CONNER)
15" .28 SVGA NI MONITOR (KFC)
MINI TOWER CASE
HI RES MOUSE

IDE LOCAL BUS:
486 DX-33 ...$1875
486 DX-50 ......$2043
486 DX/2-66......$2118

"OPTIQUEST 1500D 14" MONITOR–EDITOR'S CHOICE PC MAGAZINE 3/16/93"

IBM PRINTER CABLE	
06 FT	$3.50
10 FT	$5.00

RS-232 MOLDED CABLE	
06 FT	$3.50
10 FT	$5.00

SURGE PROTECTOR(UL)	
W/6 OUTLET	$4.00

POWER CENTER(UL)	
W/6 SWITCH	$16.00

UL

SWITCH BOX	
SERIAL DB-25 2 WAY	$4.50
SERIAL DB-25 3 WAY	$8.00
SERIAL DB-25 4 WAY	$10.00
SERIAL 2 WAY CROSS	$10.00
PARALLEL C-36 2 WAY	$8.00
PARALLEL C-36 3 WAY	$10.00
PARALLEL C-36 4 WAY	$12.00
PARALLEL 2 WAY CROSS	$12.00

NOTEBOOK SPECIAL

CANON INNOVA 386NX MODEL II
W/80M HD. MS-WORKS $1325
EPSON ACTIONNOTE 4SLC/25
W/486SLC, 120M HD $1750

BOTH MODELS INCLUDE:
- 4M RAM
- FAX MODEM (2400/9600 BAUD)
- LOGITECH TRACKMAN MOUSE
- 10" LCD SUPERTWISTED MONO DISP
- PRELOADED DOS 5.0
- WINDOW 3.1 BITCOM
- WEIGHT 5.5LB W/NiCad BATTERY
- FREE 1 YEAR NATIONWIDE ON-SITE SERVICE

NEW!

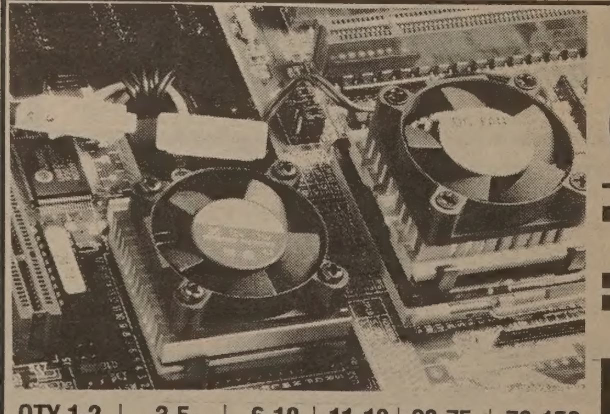
CANON

HARD DRIVE	
130M MAXTOR/CONNER	$205.00
170M MAXTOR/CONNER	$240.00
245M MAXTOR/CONNER	$300.00

MEMORY UPGRADE	
1M X 9 SIMM	$33.50
4M X 9 SIMM	$140.00

MONITOR	
OPTIQUEST 14" HIGH RESOLUTION NI 1280X1024, 1500D ...REG. $499 20%OFF	$399.20
OPTIQUEST 17" HIGH RESOLUTION NI 1280X1024, 4000D ...REG $1199 20%OFF	$959.20
DATA 14", SVGA LOW RADIATION I/NI	$260/315

"PRICE AND AVAILABILITY SUBJECT TO CHANGE WITHOUT NOTICE"



486DX CPU

Cooling Fan

- Special Design Allows 2 Different Ways Of Installation
  Installation is as easy as "snapping it on"
  Can be used with ZIF Socket by reversing clip!
- UL Approved Fan
- Quiet Operation Fan

SAVE UP TO 40%!

QTY 1-2	3-5	6-10	11-19	20-75	76-150
$15.00	$13.00	$11.00	$9.00	$7.75	$7.50

Quality Computers, Inc.
13001 Ramona Blvd. Suite C • Irwindale, CA 91706
Tel:(818) 960-1933 Fax:(818) 337-5025

Southern California's Computer Magazine
MICROTIMES

BPA

EDITOR-IN-CHIEF
Dennis Erokan
PUBLISHER
Chuck Stanley
EDITORIAL 510-934-3700
EDITOR Mary Eisenhart
ASSISTANT EDITOR Michael Robin
NEWS EDITOR Paul Hoffman
SENIOR DESIGNERS Rick Colby, Monika Lukenbill
CONTRIBUTING EDITORS Lenny Bailes, John Perry Barlow, John C. Dvorak, Jonathan E., Bennett Falk, Mitsu Hadeishi, Ed Kahn, Mitchell Kapor, Matthew Leeds, Mike Markowitz, Brock Meeks, David Morgenstern, Douglas J. Nakakihara, Tony Reveaux, Birrell Walsh, Jim Warren, Wayne A. Yacco
CONTRIBUTING WRITERS Mikael Blaisdell, Jennifer Robin Cherniss, Anna Couey, Kathleen Creighton, Adam Gaffin, Rich Grace, Peter John Harrison, Fred Lieberman, Woody Liswood, Robert Moskowitz, Kevin Savetz, David A. Simon, CPA, John Wolcott
BBS RESEARCHER David Remus
CONTRIBUTING PHOTOGRAPHERS Jay Blakesberg, Michael Jay, Susana Millman, Ann Summa, Paul Winternitz
ADVERTISING 213-851-8600
DIVISION BUSINESS MANAGER Amy Barrett
SALES MANAGER Cynthia Lapporte (Southern California)
AD DIRECTOR Greg Sage
SENIOR ACCOUNT DIRECTOR Barry Green (Northern California)
NATIONAL ACCOUNT DIRECTOR Jane Shepherd (Southern California)
ACCOUNT EXECUTIVES Melissa Campbell, Marty Gillow, Tracy Longo, Ken Marson, Herb Mendelsohn, Debra Siegel, Chloe Vezo
CLASSIFIED & SUBSCRIPTION MANAGER
Jennifer Kosta (Northern California)
ADVERTISING SERVICES ASSISTANT
Carolyn Guerrero (Northern California)
Warren La Guzza (Southern California)
PRODUCTION
GROUP PRODUCTION DIRECTOR Richard Lesovoy
GROUP PRODUCTION MANAGER Mary Beth DeSantis
PRODUCTION ASSISTANT Wendy Sloneker
TRAFFIC ASSISTANT Matt Matuska
ART STAFF Jennifer Bagwell, Donna Bogener, Paul Dorian, Gigi, Robyn Hartt, Michelle Logan, Cheryl McGrath, Stephen Noetzel, Mark Ray, Diane Wallace
CAMERA OPERATOR John Moorehead
PROOFREADER John Downen
TYPESETTING The Typesetting Shop, Inc.
ADMINISTRATION
CONTROLLER Patricia Buck
SENIOR ACCOUNTANT Linda May
ACCOUNTING Joaquin Arellano, Kim Carrington, Vickie Liu, Brian Murray, Bonnie Peterson
CREDIT MANAGER Doug Morgan
HUMAN RESOURCES DIRECTOR Erica Stein-Oakley
L. A. OFFICE MANAGER Deborah Daiken
ADMINISTRATIVE ASSISTANTS Christine Garcia, Leta Jesch
L. A. ADMINISTRATIVE ASSISTANT Melissa Cichocki
DISTRIBUTION 213-851-8600
DISTRIBUTION MANAGER John Erokan
Assistant Manager/LA Art Holland
DISTRIBUTION ASSISTANT Tami Martin
DISTRIBUTION CLERK Virgil Cecilio
FIELD COORDINATORS Roe Eyth, Frank Grygus
DISTRIBUTION Dennis Anderson, John Clefstad, Don Karr, Juan Lau, Jac Michanovic, Robbie Myers, Curtis Ng, Kelly Orr, Joseph Rafalo, Reliable Circulation, John Dimas Rezendes, SPS, Wilfredo Villarroel
PUBLICATIONS BAM Magazine, DRIVE! Magazine, SF Downtown

40

FOUNDERS
Dennis Erokan, Don Hamilton, Pat Hamilton

This Vol. 10 No. 8 July 12, 1993, Whole No. 111 MicroTimes, California's Computer Magazine, is published by BAM Publications, Inc., 3470 Buskirk Ave., Pleasant Hill, CA 94523. Phone Advertising Office (510) 934-3700. Los Angeles Office, 6767 Forest Lawn Drive, Suite 110, Los Angeles, CA 90068. Phone (213) 851-8600. San Jose Office, 36 Harold Ave., Suite 2, San Jose, CA 95117. Phone (408) 244-4400. Anaheim Office, 801 East Katella Ave., Suite #210, Anaheim, CA92805. Phone (714) 939-2809. MicroTimes™is ©1993 by BAM Publications, Inc. Subscription rates: 13 issues, U.S.: 3rd Class $32 (Allow 3 to 4 weeks for delivery), 1st Class $60 Allow 1 to 2 weeks for delivery). MEXICO & CANADA: Surface Mail $50 (Allow 4 weeks for delivery). Air Mail $70 (Allow 1 week for delivery). OVERSEAS: Surface Mail $50 (Allow 6-10 weeks for delivery), Air Mail $165 (Allow 1 week for delivery). To receive sample issues, please send $4 ($6 for overseas) to cover postage costs. Back issues are $6 each. All rights reserved. Reproduction in whole or in part without permission of Publisher is strictly prohibited. The staff and management of MicroTimes do not advocate or encourage the use of any product or service advertised herein for illegal purposes.

PC FACTORY

intel inside

...Simply A Better Choice For Your Corporate & Personal Business

PCF MICROSYSTEMS

386SX-33MHz

33MHz SX Intel Processor
2MB Ram
5.25" & 3.5" Disk Drive
80MB IDE Hard Drive
SVGA Card
14" SVGA Monitor .39 DPI
101KB, Dos 6.0
Mini Tower Case

$865

486DX-33MHz VLB

33MHz DX Intel Processor
4MB RAM 256K Cache
5.25" & 3.5" Disk Drive
120MB IDE Hard Drive
SVGA Card W/1MB Ram
SVGA 14" Monitor 1024x768
101KB/DOS 6.0
Windows 3.1 & Mouse
Desktop or Mid Tower Case

$1475

486DX-50MHz VLB

50MHz DX Intel Processor
8MB Ram 256K Cache
5.25" & 3.5" Disk Drive
212MB IDE Hard Drive w/ VLB Controller
SVGA Card with 1MB RAM VLB
14" SVGA 1024x768, .28DPI
101KB, DOS 6.0
Windows 3.1 & Mouse
Mid Tower Case w/200W

$1925

486DX2-66MHz VLB

66MHz DX2 Intel Processor
8MB RAM 256K Cache
5.25" & 3.5" Disk Drive
250MB w/VLB Controller
VLB Video 1MB
14" SVGA 1024x768, .28DPI
101KB & DOS 6.0
Windows 3.1 & Mouse
Mid Tower Case w/220W

$2095

PC FACTORY

2242 Purdue Ave.
1 BLOCK SOUTH OF OLYMPIC BLVD.
West Los Angeles, CA. 90064

Hours: M-F; 9-6

Apple® Macintosh®

Centris 610

4MB RAM
80MB Hard Drive
1.44MB Floppy
Peachtree Accounting
Extended Keyboard
(Monitor Extra)

$1645

AST® COMPUTERS

BRAVO

486DX-33MHz
4MB RAM
120MB Hard Drive
1.44, 1.22MB Floppies
SVGA Video
SVGA 14" Monitor .28
DOS 6.0

$1875

YOUR AUTHORIZED DEALER

IBM

ValuePoint

486DX-33MHz VLB
8MB RAM
245MB Hard Drive
1.44MB Floppy
IBM 15" SVGA Monitor
DOS 6.0
WIN 3.1 & Mouse

$2485

ALR®

Advanced Logic Research Inc

EVOLUTION IV

486DX-33MHz VLB
4MB RAM
120MB Hard Drive
Local Bus Video
Local Bus Controller
14" Monitor .28
DOS 6.0

$2189

EPSON

ACTIONLASER 1500

6PPM
300x300
1MB RAM

$689

NEC

SILENTWRITER

95F
35 Postscript
2MB Ram
6PPM

$1295

IBM

4019 LASER

10PPM
512K RAM
300x300DPI

$1265

TOSHIBA

T4400C

TFT Active Matrix
486DX-25MHz
200MB Hard Drive
4MB RAM
3.5 Floppy
DOS

$3975

TEXAS INSTRUMENTS

TM4000 WIN DX2/50

486DX2/50 MHz
8MB RAM
200MB Hard Drive
3.5 Floppy
DOS, WIN, Mouse

$3110

AST® COMPUTERS

POWEREXEC

486SL25
200MB Hard Drive
4MB RAM
Active Color
DOS, WIN

$4195

UNIX

EPSON CUSTOMER CARE CENTER

SCO® THE SANTA CRUZ OPERATION

SALES & SERVICE (310) 444-9003 • FAX: (310) 444-9608

NEWS & VIEWS

INDUSTRY INSIGHT

Flat-Panel Display Tariff Lifted

BY PAUL HOFFMAN

The US Department of Commerce has made American computer manufacturers very happy by lifting the heavy tariff they had put on imported flat-panel displays. The 63% tariff was originally demanded by a tiny American company that said that foreign competitor, notably Hosiden of Japan, were undercharging for the displays. As reported in MicroTimes #87, in 1991 the US government slapped the tariff on the screens even though the US firm could not manufacture nearly enough screens to keep even one company fully stocked. Flat-panel displays are used on virtually all portable and hand-help computers sold in the US.

> *With the tariff restrictions on screens lifted, computer makers will bring manufacturing back to the US and probably lower prices.*

In its new ruling, the Department of Commerce lifted the tariff after finding that the single American manufacturer, Optical Imaging Systems (OIS) of Troy, Michigan, was not a realistic competitor and that a great deal of American manufacturing of portable computers was being done overseas to avoid the tariff. Although OIS was also tiny at the time of the tariff, the Department of Commerce sought the tariff to make an example of Japan, even at the expense of US manufacturing.

Immediately after the announcement of the lifting of the tariff, Apple promised to start producing its new PowerBook 180 and 180C portable computers in the US because it could now afford the screens. Other major manufacturers are also expected to move production of the popular systems back to the US, and the prices of the portables will likely drop because of the lifted tariff.

LAPTOPS TO MAKE BIG STRIDES THIS YEAR

While much of the news in many circles is high-powered PCs based in Intel's Pentium CPU and high-end operating systems such as Windows NT and various flavors of Unix, a very different part of the computer market is starting to boom. Laptop computers, until recently a niche market with limited sales, have started to take off due to lower prices on Windows-ready systems and longer battery life. Although Intel will only deliver around 100,000 Pentium chips this year, millions of PC users will buy new laptop computers, hoping to finally be free of the large behemoths that are taking over their desks.

Until early this year, laptops that could run Microsoft Windows with any reasonable speed cost well over $2500, making cost-conscious buyers think more than twice about purchasing them. In the past few months, the cost of name-brand laptops with real 386 and 486 CPUs (instead of the somewhat anemic 386SX CPUs common in laptops) have dropped steadily. Much of the drop can be attributed to Intel's competition from chip makers AMD and Cyrix, who have been stealing the laptop market with CPUs more optimized for laptops at lower prices.

For example, even a top-name laptop like the Compaq 4/25, which has an Intel 486SL CPU, 4MB of RAM, 120MB hard drive, and weighs 6.2lbs. costs only $2000. Competing laptops with non-Intel CPUs can cost significantly less, and the standard price point for a "real" laptop is now in the $1500 range. This puts it in the same category as full desktop systems (that admittedly are much more expandable and have color screens), but frees buyers from having to compromise too much on CPU power.

At least for laptops, fewer companies are displaying the "Intel Inside" logo on their advertisements. AMD and Cyrix have made significant inroads in Intel's markets by underpricing and outperforming Intel CPUs. For example, an Intel 33 MHz 486SX CPU costs the computer manufacturer about $170; a similar-powered Cyrix CPU costs about $115. As an added incentive for ratings-conscious manufacturers, Cyrix offers the same CPU at 40 MHz for $150, beating Intel's prices while also offering much more performance. Intel is expected to deliver new CPUs aimed at this market

continued on page 17

Copyright © 1993 by Paul Hoffman. All rights reserved. Paul Hoffman is an industry analyst who has been covering microcomputer technology for ten years. He can be reached on Internet (phoffman @well) or CompuServe (71545,346). He also writes popular microcomputer books.

On-the-spot
rebates
On-target
solutions

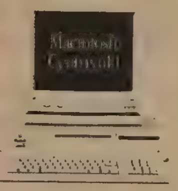
UNITEK
computer stores

Authorized Reseller

INSTANT APPLE REBATES!

Apple Macintosh® Color Classic®	$50
Macintosh Centris 610 without CD-ROM	$150
Macintosh Centris 610 with CD-ROM	$300
Macintosh Classic II	$200
Apple Personal LaserWriter® NTR	$200
Apple Macintosh PowerBook™165c	$50

Apple® Macintosh Centris™ 610



- 20-MHz Motorola 68040 chip; 68882 math coprocessor (optional)
- Built-in support for all Apple displays

4MB/80HD
$1037*
Apple Rebate -150
$887*

*With purchase of Vivid View 14" Color Display at $588, Extended Keyboard at $159 and Greatworks/Quicken Bundle $198

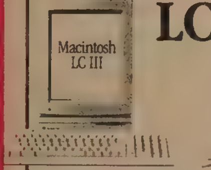
FREE MOUSE PAD.
Keyboard & Monitor Not Included

Apple® StyleWriter® II

- 360 dots-per-inch quality
- GrayScale printing & 35 built-in fonts

$297*
*With Purchase of Any Apple Computer

Apple® Macintosh® LC III



- 25 MHz 68030 processor
- Expandable up to 36MB's of RAM
- Keyboard included
- Monitor Not Included

4MB/80HD **$972*** 4MB/160HD **$1149***
*With Purchase of a Vivid View 14" Color Monitor for $588

Apple® Macintosh Centris™ 650

Macintosh Centris 650

- 25 MHz 68040 processor
- Built-in Video Support!
- 5.25" Bay for CD ROM Syquest or Tape Drive!
- Extended Keyboard $159

4MB/80HD
$1839*
*With Purchase of GreatWorks/Quicken Bundle for $198 and Vivid View 14" Color Monitor $588

Apple® Macintosh Quadra™ 800

- 33MHz 68040 with integrated FPU
- Room for one 5.25 in. & 2 Half-height Drives
- Keyboard & Mon. Not Incl.

8MB/230HD
$3650*
*With Purchase of Sony 2036S 20 inch Trinitron® Monitor

Apple® Macintosh Quadra™ 950

- Fast 33MHz 040
- Dual SCSI Capability!
- Greatest Expandability!
- Excellent choice for multi-media professionals
- Keyboard & Monitor Not Included

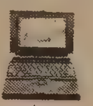
8MB W/500 HD
$5199*
- With Purchase of any Sony 17" or 20" Color Monitor

Apple® Macintosh® PowerBook™ 145

- Solid Macintosh Performance and Flexibility Built In!
- Ergonomic Design!

4MB/40HD **$1339*** 4MB/80HD **$1579***
*With Purchase of GreatWorks/Quicken Bundle for $198

Apple® Macintosh® PowerBook™ 160



- Color Video Output!
- Gray Scale Display
- 25MHz Processor
- Incredibly compact notebook computer!
- Includes Floppy!

4MB/40HD **$1695*** 4MB/80HD **$1999***
*With Purchase of GreatWorks/Quicken Bundle for $198

Apple® Macintosh PowerBook™ 165C

COLOR

- Built-in Color Display with 256 Colors

$2345*
Apple Rebate -50
4MB/80HD
$2295*
*With Purchase of GreatWorks/Quicken Bundle for only $198

Apple® Macintosh PowerBook™180

- Gray Scale Active Matrix Display!
- Color Video Output!
- High Performance & incredible speed
- Includes Floppy!

$3239
Apple Rebate-100
4MB/80HD
$3139

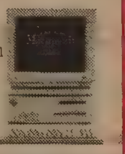
Apple® Macintosh PowerBook™ 180c

COLOR

- NEW COLOR ACTIVE MATRIX
- A member of the portable Macintosh product line

4MB /80HD **$3587** 4MB/160HD **$3887**
*With Purchase of GreatWorks/Quicken Bundle for $198, Express Modem $4169

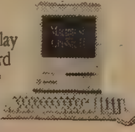
Apple® Macintosh® IIvx



- 32MHz Motorola 68030 chip. Including 68882 Math Co-processor
- 32k Memory Cache

$1035
Apple Rebate-150
4MB/80HD
$885
* With purchase of Vivid View 14" Color Monitor at $588. Extended keyboard at $159 and Greatworks/Quicken Bundle $198.

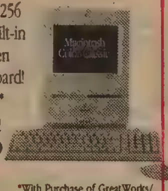
Apple® Macintosh® Classic® II



- 16MHz 68030 processor expandable to
- 2MB Memory
- Built-in 10inch monchrome display
- Includes Keyboard

$819*
Apple Rebate -50
4MB/80HD
$769*
*With Purchase of GreatWorks/Quicken Bundle for only $198

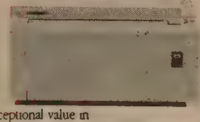
Apple® Macintosh® Color Classic®



- Displays up to 256 Colors on a built-in Trinitron Screen
- Includes Keyboard!

949*
Apple Rebate-50
4MB/80HD
$899*
*With Purchase of GreatWorks/Quicken Bundle for only $198

Apple® Personal LaserWriter® NTR



- Exceptional value in a compact laser printer
- Easy to use with any Macintosh
- 300dpi resolution
Incl: Engine, Card, Toner

$1199
Apple Rebate -200
$999

brother HJ-400 WHISPER ② QUIET

Whisper Quiet

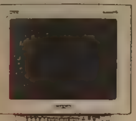
- 40% More Dots Per Inch than 300 DPI Printers
- 12 Resident Fonts (Plus Additional True Type™ Compatible Fonts)
- 100-Page Automatic Cut-Sheet Paper Feeder

$299

HEWLETT PACKARD DeskWriter 550C Color Printer

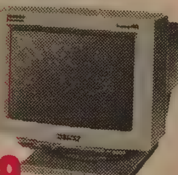
$679

SONY
Sony CPD-1430



$589
- 14" Super Fine Pitch™ Multiscan® Trinitron® color display
- .25 mm Aperture Grille pitch
- Varible scan frequency of 28 to 58 kHz
- Sony Display Memory System provides easy-to-use digital control of screen images
- Full compliance with Swedish MPR II standards for VLF/ELF magnetic and electrical emissions

SONY
Sony CPD-1604S

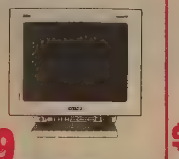


$889
- 17" Super Fine Pitch™ Trintron® Multiscan® monitor
- .25mm Aperture Grille pitch
- Variable scan frequency of 28 to 57 kHz
- Complies with Swedish MPR II standards for ELF and VLF

SONY
Sony CPD-1730

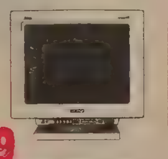
$989
- 17" Super Fine Pitch™ Multiscan® Trinitron® color display
- .25 mm Aperture Grille pitch
- Overscanning for crisp edge-to-edge images
- Sony Display Memory System provides easy-to-use digital control of screen images

SONY
Sony GDM 2036S



$1999
- 20" Super Fine Pitch™ Multiscan® Trinitron® color graphics display monitor
- .30 mm Aperture Grille pitch
- Maximum resolution of 1280 x 1024 refresh (non-interlaced)
- Variable scan frequency of 30 to 71 kHz

SONY
Sony GDM 2038



$2199
- 20" Super Fine Pitch™ Multiscan® Trinitron® color graphics display monitor
- .30mm Aperture Grille pitch
- Maximum resolution of 1280 x 1024 at 80 Hz refresh (non-interlaced)
- Variable scan frequency of 28 to 85 kHz.

radius

Intelli
Color 20"

Digital Control for Professional Color Accuracy!

$2475 #0381

Apple, the Apple logo, LaserWriter, StyleWriter, Mac, & Macintosh are registered trademarks of Apple Computer Inc. PostScript is a trademark of Adobe Systems Inc. Classic is a registered trademark, licensed to Apple Computer, Inc. PowerBook, PowerBook Duo, Macintosh Quadra, System 7 & Macintosh Centris are trademarks of Apple Computer, Inc. Prices subject to change w/o notice. Limited to stk. on hand. Unitek is not responsible for typographical errors! **ABSOLUTELY NO DEALERS!** Sony, Trinitron, Multiscan, and Super Fine Pitch are trademarks of Sony.

UNITEK
Retail & Corporate Sales
12024 Wilshire Blvd. • West Los Angeles, CA 90025

(310) 820-2400
FAX (310) 826-1455

UNITEK
computer stores

12024 Wilshire Blvd.
West Los Angeles, CA 90025

FULL SERVICE CENTER
Open Monday-Friday
9:00am-7:00pm
Saturday 10:00am-4:00pm

SALES & SERVICE DEPT.
TEL(310) 820-2400
FAX (310)826-1455

NEW! 90 DAY FREE FINANCING!*

UNIX · Novell Authorized Reseller · Microsoft LAN Manager · SunSoft A Sun Microsystems Inc. Business · SunNet Manager

NETWORKING SPECIALIST · UNIX SYSTEMS · INTER-NETWORKING · WANS · MS & NOVELL CERTIFIED

Contura 3/25
386SL/25
4MB, Bundle

80MB	1499
120MB	1649

Contura 4/25
486SL-25, 4MB, Bundle
DOS, Windows, Trackball

120MB	1999
209MB	2289

NEW!
3 YEAR ON-SITE WARRANTY

COMPAQ®

Authorized Dealer & Service Center

NOTEBOOKS
- **Contura 3/25C 84/120** 2089/2245
  386SL-25, 4MB, Passive Color, Bundle
- **Contura 4/25C 120/209** 2655/2939
  486SLC-25, 4MB, Passive CLR, Bundle
- **Contura 4/25CX, 120/209** 3199/3498
  486SLC-25, 4MB, Active Matrix, Bundle
- **LTE Lite 4/25C 120/209** 3929/CALL
  486SLC-25, 4MB, Active Matrix, Bundle

DESKTOP
- **Prolinea 486SX-25S, 120/240** 1199/1399
  4MB, 1.44Dr, DOS, Win, Mouse, Local Bus
- **Prolinea CDS Multimedia, 120MB** 1725
  DOS, Windows, PFS Works, CD ROM, CD Software, Sound Card, Speakers, Modem
- **Prolinea 486DXII/66, 120/240** 1999/2185
  4MB, 1.44 Dr. Local Bus, DOS, Win, Mouse
- **DESKPRO** .... ALL Available/CALL
- **Pagemarq 15, 15PPM Printer** 2535

Prolinea 4/33
486DX-33, 4MB, Windows
Local Bus, 1.44, Mouse

120MB	1585
240MB	1749

Prolinea 4/50
486DX-50, 4MB, Windows
Local Bus, 1.44 Dr.,Mouse

120MB	1799
240MB	1989

***U.S. Assembled**

UNITEK computer systems

Dealer & Service Center

UNITEK 386DX-40
- Teac 1.2 & 1.44 Drive
- 4MB Ram, 128K Cache
- 120MB Hard Disk
- 2 Serial, 1 Parallel Port
- SVGA Card 1MB
- SVGA 1MB
- SVGA Monitor .28
- Keyboard

$979

UNITEK 486DX-33 LOCAL BUS
- Teac 1.2 & 1.44 Drive
- 4MB Ram, 256K Cache
- 120MB Hard Disk
- 2Serial, 1 Parallel
- SVGA Card 1MB Local Bus
- SVGA Monitor .28
- Keyboard

intel inside

$1329

UNITEK 486DX-50 LOCAL BUS
- Teac 1.2 & 1.44 Drive
- 4MB Ram, 256K Cache
- 120MB Hard Disk
- 2 Serial, 1 Parallel
- SVGA 1MB Local Bus
- SVGA Monitor .28
- Keyboard
- Mid-Tower

intel inside

$1489

UNITEK 486DXII-66 LOCAL BUS
- TEAC 1.2, 1.44 Drive
- 4MB RAM, 256K Cache
- 120MB HDD
- Local Bus SVGA Card 1MB
- SVGA Monitor .28
- Keyboard
- 2 Local Bus
- Mid Tower Case

intel inside

$1579

OKI OK! OKIDATA®

Authorized Dealer & Service Center

OL-400
- 4PPM Printing Speed
- HP Laserjet Series II Comp..
- Parallel Std. Interface
- 300X300 DPI Res.
- 200 Sheet letter size paper input tray
- Built-in HP Comp. Fonts Cards
- 512 RAM Std./Expandable to 2.5 MB
- 5 year LED head warranty, 1 year Parts and Labor
- Up to 6000 pages per month rated duty cycle

$488*
w/Toner

*After manufactures rebate 7/31/93 exp.

OL-830 PLUS
- 8 PPM Printing Speed
- Adobe PostScript plus HP LaserJet Series II and Diablo 630 emulations
- Centronics parallel standard, RS-232c serial & AppleTalk interfaces optional
- 300x300 DPI Resolution
- 17 built-in Adobe fonts
- 26 built-in fonts/4 typefaces for emulations
- 200 sheet letter size paper input trayu with adjustable manual feed
- Optional 2nd paper input mechanism & tray
- Auto-Emulation switching capability
- 2 MB RAM standard; expandable to 4.0 MB
- 5 year LED head warranty, 1 year parts and labor
- Up to 16,000 pages per month rated duty cycle

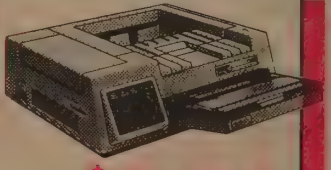
$1039
w/Toner

NEW!

OL-810
- 8PPM Printing Speed
- HP LaserJet Series III, OL400, IBM ProPrinter IIIXL
- OKI SMOOTHING TECHNOLOGY
- 300X300 DPI resolution
- 13 HP III compatible, scalable fonts
- 200 sheet letter size paper input tray with adjustable manual feed
- 1 MB Ram standard; expandable to 5MB
- Full library of HP Compatible scalable font cards
- 5 year LED head warranty, 1 year parts and labor
- Up to 16,000 pages per month rated duty cycle

$869
w/Toner

OL-850
- 8PPM Printing Speed
- 300 dots per inch, OKI SMOOTHING TECHNOLOGY
- 2MB Ram
- HP Laserjet II, Adobe Postscript
- 35 Adobe Postscript Fonts
- 26 Bitmap Fonts
- Centronics Parallel, Rs232c & Rs422 Serial
- AppleTalk included



$1159

Prices subject to change with out notice. Limited Time & Quantity. *OAC Ask for Details.

UNITEK
computer stores

12024 Wilshire Blvd.
West Los Angeles, CA 90025

FULL SERVICE CENTER
Open Monday-Friday
9:00am-7:00pm
Saturday 10:00am-4:00pm

SALES & SERVICE DEPT.
TEL(310) 820-2400
FAX (310)826-1455

NEW! 90 DAY FREE FINANCING!*

T1850

386SX-25, 4MB, 1.44
VGA, DOS 5.0, 6.8lbs.

80MB	$1299
80MB w/Bundle	$1389
120 MB	$1445

T1900

486SX-20, 4MB, PCMICA,
6.4lbs.,DOS 6.0, WIN, Ballpoint

80MB	$1669
120MB w/Bundle	$1799
200MB	$2089
T1900C Color	CALL

• SALE! • SALE! • SALE! • SALE! • SALE! • SALE! • SALE! • SALE! •

TOSHIBA

• Authorized Dealer & Service Center •

T3300SL 80/120 2MB, 1.44 386SL-25, 5.9 lbs.	**CALL**
T4400SX 120 2MB. 1.44 486SX-25, LCD Screen	**$2239**
T4400C 120HDD 486SX-25, 4MB, Active Matrix 9.5	**$3399**
T4400C 200HDD 486DX-25, 4MB, Active Matrix 9.5	**CALL**
T4500 80/120/200 486SX-20, 4MB, LCD, WIN 3.1	**$2099/2239/2525**
T4500C 120/200 486SX-20, 4MB, Active Matrix Window	**$3199/CALL**
DYNAPAD T100X 40HDD 386SXLV-25, Pen Point Ready	**NEW**
T6400DX 200HDD 486DX-33, 4MB, Gas Plasma 11.7 lbs.	**$3579**
T1850C 80/120 386SX-25, Passive Matrix (color)	**$1809/$2049**
T6400DXC 200HDD 486DX2-50, 4MB, Active Matrix	**$5475**
T6400 MM 200 Multimedia 486DX2-50, Active Multimedia	**NEW**

• We Service & Upgrade All Toshiba Computers •
• All Accessories Available •

T4500

486SX-20 4MB
DOS, Windows, Trackball

80MB	$2069
120MB	$2199
T4500C 120	CALL
T4500C 200	CALL

T4600/T4600C

486SI-33, 4MB, PCMICA, 6.4lbs.,
DOS 6.0, WIN, Trackball

120MB LCD	$2845
200MB LCD	3089
120MB Active Matrix	3969
340MB Active Matrix	CALL

NEC

Authorized Dealer

NEC 3FGE	599
NEC 4FGE	719
NEC 5FGE	1099
NEC 5FG.	1269
NEC 6FG.	2299

NOTEBOOKS

Ultralite Versa 486SL-20 80/120 LCD	2399/2599
Ultralite Versa 486SL-20C 120MB Active Color	3649
Ultralite Versa 486SL-25 120/180 LCD	2739/2959
Ultralite Versa 486SL-25C 120/180 Active Color	3799/4049
Ultralite Autograph 486SL-20 40MB Penpoint	3325

PRINTERS

* 3-YEAR ON-SITE WARRANTY*

Silentwriter MDL.95	1145
Silentwriter MDL.95F	1289
Silentwriter MDL.95FX	1429
Silentwriter MDL.97	1499
Silentwriter MDL.97FX	1779

SONY

Sony 1320 14"	429
Sony 1302 13" .25	539
Sony 1430 14" NEW	589
Sony 1604S 17" .25	889
Sony 1730 17" NEW	989
Sony 2036 20"	1999
Sony 2038 20"	CALL

CD ROM

Sony CD-ROM Internal w/3CD	339
Sony CD Multi-Media Bundle	555

Authorized Dealer

HEWLETT PACKARD

LASERJET PRINTERS

IIIP w/Toner	849
HP 4 w/Toner	Call
HP 4M w/Toner	1889
HP4L w/Toner	669
4SI w/Toner	Call
4SI MX	Call

SCANNERS

HP IIP w/AT CTRL	$799
HP IIC w/AT CTRL	$1375

• Also Available for Mac •

INKJET PRINTERS

DeskJet 500	$359
DeskWriter.	359
DeskJet Portable	375
DeskJet 500C	489
DeskWriter C	489
DeskJet 550C	689
Deskwriter 550C	689
PaintJet XL-300.	2179
Deskjet 1200C	1399

LASERJET FAX

LaserJet Fax 200	$979
LaserJet Fax 310	$1299

• ALL ACCESSORIES AVAILABLE AT DISCOUNT PRICES •

Memory Upgrades

II,IID,III,IIIP, D, IIP

1MB/2MB	$99/119
3MB/4MB	149/189

*5 Years Mfg. Warranty on Board *

HP 95LX Palmtop Comp 1MB	$589
HP Connectivity Pack	89

Accessories

IIP, IIIP Lower Tray	$145
HP II, III Toner	79
HPIIP, IIIP Toner	69
HP Postscript Cartridge II	469
Pacific Page Postscript PE	369
Pacific Page XL Cartridge.	749
HP LaserJet Fax.	925

IBM

Lower Prices

Authorized Dealer
PS/ValuePoint

ValuePoint 425SX 120/170 486SX-25, 4MB, SVGA, K.B., DOS, Windows & Mouse	**1099/1295**
ValuePoint 433DX 120/212 486DX-33, 4MB, SVGA, K.B., DOS, Windows & IBM Mouse	**1499/1675**
ValuePoint 466DX2 212MB 486DX2-66, 4MB, SVGA, K.B., DOS, Windows & IBM Mouse	**2129**

**** Above Available with 8MB RAM & OS/2***

• NOTEBOOKS •

Thinkpad 300, 80/120 386SL-25, 4MB RAM, DOS 5.0, Pointing Device	**1875/CALL**
Thinkpad 700, 80.120 486SLC 25,4MB, VGA Mono, DOS 5.0, Pointing Device	**CALL/2699**
Thinkpad 700C, 120 Active Matrix Color, 486SLC, 4MB, DOS 5.0, Pointing Device	**CALL**
Thinkpad 720/720C, 120/200	**CALL**

Printers
OKIDATA

Authorized Sales/Service

320/321	$319/429
Oki 520/521.	379/495
390/391	429/585
Oki 590/591	439/589
Oki 400 4ppm w/Toner.	488*
Oki 810 8ppm w/Toner.	869
Oki 830 Plus 8ppm. Postscript, 35 Fonts, 2MB RAM	1039
Oki 850 8ppm	1159
DOCIT 3000	2329
DOCIT 4000	2685

*After manufactures rebate (7/31/93 exp.)

EPSON

Authorized Dealer

LX-810, 9 Pin	$179
LQ-570+, 24 Pin	275
FX-870/FX 117.	279/369
LQ-870/LQ-1170, 24 Pin	449/609
LQ-1070 24 Pin, 132 Col.	395
LQ-2550 24 Pin, High Speed	899
DFX-5000 9 Pin, 533 CPS	CALL
Stylus 800	349

★ LASER ★

Actionlaser l000, 6PPM	$629
Actionlaser l500	669
EPL-8000 Laser, 10PPm, 1MB	1029

All Accessories Available

CITIZEN

Authorized Sales/Service

GSX 190 NEW	$179
GSX 240 NEW	$309
GSX 130	275
GSX 145, 132 COL	409
200 GX, 9 Pin	169
Color Option	49/69

Canon

Bubble Jet

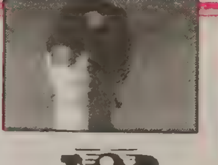
BJ-10EX Printer	$259
BJ-300 80 col, 600 cps	359
BJ-330 132 col, 600cps	595
BJ-200 360dpi	359
BJC-800/820 Color	1889/1995

brother

NEW

HL-10V Laser Printer 10PPM, HP3 Compatible 1MB, 35 Fonts	$1195
HL-10PS Postscript w/ Appletalk	CALL

Prices subject to change with out notice. Limited Time & Quantity. *OAC Ask for Details.



★WHOLESALE TO THE PUBLIC★

We Will Beat Any System Price In Any Magazine.

Top Savings, Top Quality, Top Computer

	Cash Price	Regular Price
386SX-33 MHz	$565.	$585.
386DX-40 MHz/128K	$625.	$645.
486SX-25 MHz/64K	$695.	$715.
486DLC-40MHz/256K/Math Co	$ 835	
486DX-33 MHz/256K	$895.	$915.
486DX2-50 MHz/256K	$985.	$1005.

★ 120 MB ★

- Fast Hard Disk Drive
- 1MB RAM Installed
- 1.44MB Floppy Drive
- Dual F/H IDE Controller
- 101 Enhanced Keyboard
- Mini-Tower Case
- UL Power Supply
- VGA Graphic Card
- VGA Monitor
- 1 Year Warranty Parts & Life Time Warranty
- 72 Hour Burn-In Test

Apply for your Top Computer credit line. *Quick & Easy Approval!*
Ask about 6 month instant free credit!

FREE

- High Resolution Mouse
- EASY BILLING SYSTEM :HOME ACCOUNTING
- Customer Control, Vendor Control
- Employee Control
- Customer Support Tracking
- Billing, Estimating
- Order Receiving, Commission Control
- Check Generator, Statements
- General Ledger, Financial Reports

FREE SOFTWARE

UNBELIEVABLE ROCK BOTTOM PRICES!!

FREE SOFTWARE

System	Cash	Reg
386SX-16MHz	$185	$195
386DX-40MHz (w/128K Cache)	$245	$255
386SX-25MHz	$190	$200
486DLC-33MHz	$275	$285
386SX-33MHz	$195	$205
486SX-25MHz (w/64K Cache)	$315	$325
486DLC-40 CYRIX (w/256K Cache, w/Math Coprocessor)	$425	$440
*486DX-50 MHz (w/256K Cache)	$620	$635
*486DX-33 MHz (w/256K Cache)	$490	$505
*486DX2-66 MHz (w/256K Cache)	$700	$715
*486DX2-50 MHz (w/256K Cache)	$595	$610

*Local Bus Mother Board Add Only $ 20

SYSTEM INCLUDES:

- Mini Tower
- UL Power Supply
- 1 MB Ram Installed
- 1.44MB Floppy Disk Drive
- 72 Hour Burn-In
- Dual FDD & HDD Controller Card (1: 1)
- 2 Serial/1 Parallel/1 Game Port
- Realtime Clocks & Calendar
- 101 Enhanced Keyboard

1 YEAR WARRANTY PARTS
LIFE TIME WARRANTY!!

Monitor & Graphic Card Bundles

14" Mono w/MGP Card	$84
14" Mono VGA w/VGA Card	$135
VGA Color w/VGA Card	$175
14" SVGA Color w/SVGA Card(.39)	$230
14" SVGA Color w/SVGA Card(.28)	$265
14" SVGA Color Non-Interlaced w/SVGA Card	$290
17" Color Monitor Special (.31)	$645
17" SVGA Color Non-Interlaced(.26)	$795

Quality Hard Disk Drives

44MB IDE	$110
85MB IDE	$165
105MB IDE	$165
120MB IDE	$175
170MB IDE	$195
213MB IDE	$225
250MB IDE	$250
340MB IDE	$305

486DX-33MHz/256K VESA LOCAL BUS

- Mini-Tower Case
- 2 MB RAM
- 120 MB HARD DISK DRIVE
- 1.2 MB FLOPPY DRIVE
- 1.44 MB FLOPPY DRIVE
- VESA IDE CONTROLLER
- VESA SVGA CARD W/1MB
- 14" SVGA MONITOR
- 101 ENHANCED KEYBOARD

$1139 / $ 1169
CASH REG.

Upgrades

1 MB RAM to 2MB	add $34
1 MB RAM to 4MB	add $111
2 MB RAM to 4MB	add $74
1 MB SIMM	$37
4 MB SIMM	$CALL
1.2 MB FDD	add $44
1.44 MB FDD	add $37

Modem & Parts

High Resolution Mouse	$8
Mouse w/Windows 3.1	$45
250MB TAPE DRIVE	$170
2400 MODEM (USED)	$15
Fax Modem(14.4 BAUD)	$165
Trackball Mouse	$45
2400 Internal Modem	$25
2400 Toshiba Laptop Modem	$105
Fax Modem (9600 BAUD).	$38
250 Tape	$19

Notebook

Limited Quantity Hurry!!

EPSON®

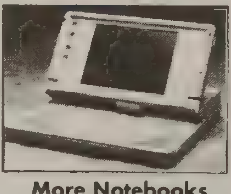
- 486 SLC-25 MHz
- 4MB RAM
- 120 MB Hard Disk
- VGA LCD
- Fax Modem
- Logitech Trackball
- Carrying Case

$ 1545

CHICONY

- 386SX/25MHz
- 2MB RAM
- 60 MB HARD DISK

$ 965



More Notebooks Available!

*At no time, Top Computer is responsible beyond the cost of replacement of new computers, parts it has sold.

MICROTEC

1200Dpi Color Scanner
$795 (full page)

Laser Maser Winjet 800
$495

800Dpi for HP Laser printer

Winjet 1200 $745
1200 Dpi for HP4 600 Dpi

This Month's Specials

★ (USED) IBM 8513 (.26 DPI) Color VGA Monitor/reg.$495
$155

★ SONY CD ROM.... $205

★ 250MB Tape Drive
$170

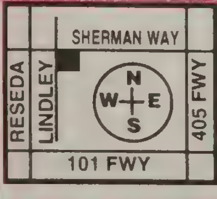
Printers & Scanners

EPSON Action 2250 9-Pin Printer (240D)	$119
EPSON Action 3250 24-Pin Printer (200D)	$189
EPSON LQ-570 24-Pin Printer (252D)	$229
Action Laser 1000 Printer (6PPM, 512KB)	$645
Action Laser 1500 Printer(6PPM,1MB)	$695
EPSON Inkjet Printer	$335
HP IIIP Plus	$Call
HP DJ 500c Color	$495
HP4 Laser Printer	$1,335
EPSON ES-600 C-B•Color imageScanner (600DPI)	$795
EPSON ES-800C•Color ImageScanner(800DPI)	$1,095
EPSON EPL 8000 (HP III Compatible) Laser Printer (10PPM)	$845

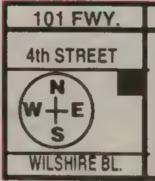
1-800-690-0006

Limited Quantity!
Prices subject to change without notice.
Payment Terms Available

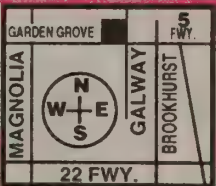
VISA MasterCard DISCOVER



18040 Sherman Way
Suite # 105
Reseda, CA 91335
(818) 757-0222
Fax: (818) 757-0808



401 S. Vermont Avenue #6
Los Angeles, CA 90020
TECHNICAL SUPPORT/CUSTOMER SERVICE
(213) 384-2502
(213) 384-6601
Fax: (213) 384-6713



9681 Garden Grove Blvd.
Suite #103
Garden Grove, CA 92644
(714) 534-4523
Fax: (714) 534-5412

TOP COMPUTER SYSTEMS • SEOUL, KOREA • TEL. (0345) 83-0515

continued from page 12

later in the year. AMD and Cyrix will probably be able to drop their prices enough to counter any Intel move.

Price isn't the only thing that has been keeping customers back. Battery life for many portables is pretty terrible, and the prospect of only getting an hour of work done on the road before recharging kept lots of people using desktop computers. However, computer manufacturers, helped by the CPU makers, have come up with much better ways to keep batteries lasting longer. Most laptops now have internal circuitry that turns off the CPU and other power-draining chips when the computer is not in use, even between keystrokes. Although a fast typist can type over ten characters a second, a tenth of a second is a phenomenally long time for a computer. By shutting down and coming up between keystrokes (or mouse movements, or characters coming in from the modem), the overall power use of the computer goes way down, letting the battery last longer.

> *Currently, PCs use about 40 billion kilowatt hours per year. By the year 2000, that number will increase to over 100 billion kilowatt hours per year. With just using today's power-saving technology, the prediction for the year 2000 can be reduced to 30 billion kilowatt/hours/year.*

AMD and Cyrix have been challenging Intel on another laptop CPU front, and until recently winning handily. Most desktop computers run internally at 5 volts, but some work at 3.3 volts. The lower the voltage, the lower the power consumption. A 3.3 volt system consumes about 40% of the power of a 5 volt system. AMD and Cyrix pioneered the 3.3 volt systems, and Intel has had to play catch-up. However, now all three sell lower-voltage CPUs that contain support for stopping the CPU and other peripherals when the computer is not in use.

The result of these developments have been much better laptop computers. Hewlett-Packard's new "superportable" OmniBook 300 weighs only 3lbs. and runs eight hours on two AA batteries. From early reviews, the OmniBook 300 will challenge other manufacturers to reduce power consumption and weight by incorporating more features onto chips. The OmniBook comes with Microsoft Windows, Word, and Excel on ROM, greatly reducing the amount of time the 40MB hard disk needs to be used. Further, the OmniBook comes with a 20MB "flash" RAM-based hard disk that can almost eliminate the use of the rotating hard disk altogether, allowing it to be turned on only occasionally.

Hewlett-Packard is aiming the OmniBook at people who want to get the computer off of their desks, but need to have one around some of the time. Although its 386SX CPU is slower than its

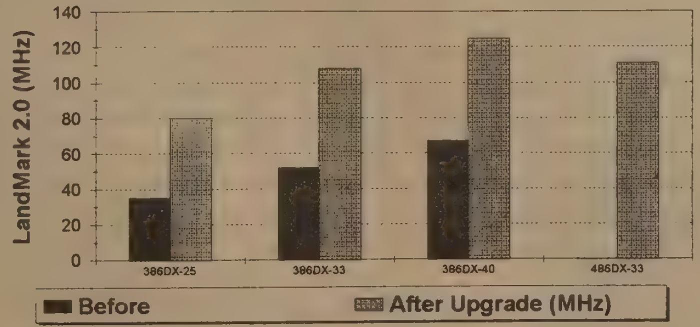
★486 SPEED FOR $175!★

Our 486 Upgrade Kit Can Breath New Life Into Your 386 DX Computer. Everything You Need To Double Your Performance Is In Our Kit, Including A New 486 CPU! In Less Than 10 Minutes, You Can Bring A New Sense Of Power Into Everything You Do. Our Kit Works With Your 386 DX Computer, And We Even Buy Back Your Old CPU!

SO CALL TODAY!

486-25 Kit	For 386DX-16/20/25	$ 175.00
486-33 Kit	For 386DX-33	$ 195.00
486-40 Kit	For 386DX-40	$ 245.00
Math Co-Processor With Kit Purchase		$ 30.00

15 DAY MONEY BACK GUARANTEE!



HAL CONSULTING
COMPUTING SOLUTIONS FOR ALL
(909) 396-0408 FAX (909) 396-6998

Order Information: Prices do not include Shipping and Handling Charges. No surcharge for credit card orders. 5 days required to allow company or personal checks to clear. No returns after 15 days. All returns require authorized RMA numbers. Restocking charge may apply. Call for details.

Time for a change?
Increase your marketability.
Increase your salary.
Increase your Networking Knowledge.

When you become a CNE, you become a NetWare expert. Thus increasing your value and salary expectations in the job market. You will also receive other advantages that will help you manage networks more effectively.

NOVELL

CNE QUICK COURSE

Whether or not you're already proficient with NetWare, it's easier than ever to obtain your CNE certification by registering for the CNE Quick Course℠. Developed by Novell's former CNE program manager, the CNE Quick Course℠ is offered only by Certified Network Educators, and allows CNE certification in just 5 DAYS.

Register for the CNE Quick Course℠, and receive MS-DOS, Microcomputer Concepts Manuals, and 7 Novell Vouchers, FREE!

CNE & ECNE CERTIFICATION is closer than you think.
Call Now to Reserve Your Seat.

Certified
Network
Educators

To Register for classes call
1 800 9-NOVELL.
Novell Authorized Education Centers

CALIFORNIA Computer Show & Sale

LOWEST PRICES IN THE USA!

PC Compatibles • Hardware • Software • Accessories

UPCOMING SHOWS

ANAHEIM STADIUM—INDOORS
July 24, 1993 • 2000 State College Blvd., Anaheim

CSUN NORTH CAMPUS
July 31, 1993 • 18000 Devonshire Blvd., Northridge

GLENDALE CIVIC AUDITORIUM
August 1, 1993 • 1401 North Verdugo Road, Glendale

CSUN NORTH CAMPUS
August 14, 1993 • 18000 Devonshire Blvd., Northridge

ANAHEIM STADIUM—INDOORS
August 21, 1993 • 2000 State College Blvd., Anaheim

INDUSTRY HILLS SHERATON
BRAND NEW SHOW!
August 22, 1993
One Industry Hills Pkwy., Industry Hills

All Shows from 10a.m. to 4p.m.

Admission: $6⁰⁰
Children under 12 FREE

FOR INFO. CALL 1-800-685-1400

BBS: 415-340-9370

$1⁰⁰ OFF
Good For All
Of The Above Shows.
Limit 1 discount coupon per person.
Regular Admission $6⁰⁰
Copies accepted.

competitors, many people with desktop PCs only use them an hour or two a day, so a bit of delay may be worth the freed-up desk space and the ability to take the computer on the road easily. On the other hand, people who use their computers much of the time will probably be more comfortable with a full 486-based system on their desk and a more powerful (but probably heavier and shorter battery life) laptop for the road.

The recent trends in laptops will continue for at least a year. With the tariff restrictions on screens lifted, computer makers will bring manufacturing back to the US and probably lower prices. The other chips used in laptops are getting better as well. At the recent MicroSystems Forum in San Jose, VLSI Technology announced the SCAMP IV, a two-chip set that replaces six or seven chips in earlier designs that handles all the peripherals, RAM, ROM, and other support that is needed to drive a computer. The chip set will also control a local bus for significantly faster RAM and graphics support, PCMCIA card support, and infra-red wireless communications support that allows non-wired connections with desktop systems. VLSI has competitors, and the result will be that laptops in the next year will have significantly more high-end features at probably the same (or lower) prices.

EPA INTRODUCES ENERGY STAR PROGRAM FOR POWER-CONSERVING PCs

While laptops draw only a few watts of power, desktop computers can easily draw over 100 watts. Most of the power is wasted, not even used for computing capabilities. In order to save electricity, the US Environmental Protection Agency has set up a new voluntary program to promote PCs that drop back to lower power consumption when you aren't using them. These so-called "green PCs" will sport a special logo, the Energy Star, and will probably be preferred for purchase by federal agencies. Hopefully, the average consumer will look for the logo as well.

You might think that concern about how much power a few PCs can save is minor relative to the really big wasters, but it is so simple to cut down energy use in PCs that to not do so is silly. Currently, PCs use about 40 billion kilowatt hours per year. By the year 2000, that number will increase to over 100 billion kilowatt hours per year with more users and users having more than one PC. With just using today's power-saving technology, the prediction for the year 2000 can be reduced to 30 billion kilowatt/hours/year, less than current use.

President Clinton gave a great deal of impetus for the Energy Star program in his Earth Day address this year. Energy Star PCs will be strongly preferred in federal contracts as long as they meet the same performance requirements as the noneffi-cient PCs they compete with. The official Energy Star announcement was made by Vice President Al Gore, a known technophile.

It is expected that most manufacturers who compete for federal contracts will make wide ranges of Energy Star PCs so they can compete for future contracts. Local utilities such as PG&E will also likely specify Energy Star PCs and possibly even give rebates for purchases of Energy Star PCs, similar to the way they give rebates for buying home insulation.

To qualify for the EPA's Energy Star logo, a PC has to power down to under 30 watts when it is inactive. The same will have to be true for the monitor. Some recent computers already qualify for the Energy Star, and manufacturers will put the logo on new systems as they are made. There is a similar program for laser printers, which must drop to a lower-energy idling stage after 15 or 30 minutes; many printers on the market already do so as a way of prolonging their time between failures.

Immediately after the announcement, major manufacturers such as Dell, Hewlett-Packard, IBM, and ALR announced various systems that qualify for the Energy Star logo. Most other major PC makers, including Apple, pledged to release Energy Star computers this year. In fact, Apple recently released its new Personal LaserWriter 300 which only draws 5 watts of power when idle, eliminating the need to turn it off when not in use.

Even if you don't buy an Energy Star PC, you can significantly reduce your power consumption simply by turning off your PC and monitor when they are not in use. A typical PC that is left running 24 hours a day consumes 1300 kilowatt hours per year; one that is turned off at night uses only 400, accounting for a savings of $70 dollars a year and a cleaner environment. A typical Energy Star PC will use less than half that power, and future energy-efficient PCs may reduce that by an order of magnitude to about 25 kilowatt hours per year. ■

COMPUTER PACER

1460 MONTEREY PASS RD. #B
MONTEREY PARK, CA 91754
(213) 262•1087
FAX (213) 264•1481
24 Hours FAX Order Line
1 YR. WARRANTY PARTS & 2 YR. LABOR

"What a Deal!"
"FREE Gifts with system purchase"

OPEN 7 DAYS
STORE HOURS:
MON-FRI 9AM-6PM
SATURDAY 10AM-3PM
SUNDAY 1PM-5PM

386-40SX

Pacer Senior

- 80386SX 40MHz
- 2MB RAM, Exp. to 8MB
- Math Coprocessor Socket
- TEAC 1.2 High Density Floppy
- TEAC 1.44 High Density Floppy
- 120 Meg Hard Disk Drive
- Dual Hard/Floppy Controller
- 2 Serial, Parallel, Game
- Vertical or Desktop Case
- 230 Watt Power Supply
- Super Hi-Res VGA Graphic 1024x768
- 14" Super Hi-Res VGA color
- Monitor Tilt Swivel 1024x768
- 101 Enhanced Keyboard w/Dust Cover
- 1320 DPI Serial Mouse
- Mouse Pad
- Cables and Manuals

ONLY $805
Complete

386-40DX

Pacer Masters

- 80386DX 40MHz w/128k Cache
- 4MB RAM, Exp. to 32MB
- AMI Bios, 8 Expansion Slot
- Math Coprocessor Socket
- TEAC 1.2 High Density Floppy
- TEAC 1.44 High Density Floppy
- Conner 170 Meg Hard Disk Drive
- Dual Hard/Floppy Controller
- 2 Serial, Parallel, Game
- Digital Vertical or Desktop Case
- 230 Watt Power Supply, Dual Fan
- 32,000 Hi Color Super VGA Graphic Card w/1Meg 1024x768
- 14" Super Hi-Res Edge to Edge VGA Color Monitor Tilt Swivel 1024x768 .28 dp
- Keytronics 101 Enhanced Keyboard w/Dust Cover
- 1320 DPI Serial Mouse
- Mouse Pad
- Cables and Manuals

ONLY $1,069
Complete

486-33

Pacer Gigantic

- 80486 33MHz w/256k Cache
- 4MB RAM, Exp. to 32MB
- AMI Bios, 8 Expansion Slot
- Built-in Math Coprocessor
- TEAC 1.2 High Density Floppy
- TEAC 1.44 High Density Floppy
- Maxtor 245 Meg Hard Disk Drive
- Dual Hard/Floppy Controller
- 2 Serial, Parallel, Game
- Vertical or Desktop Case
- 230 Watt Power Supply, Dual Fan
- 32,000 Super Hi Color VGA Graphic Card w/1 Meg
- 14" Non-Interlaced Super Hi-Res Edge to Edge VGA Color Monitor Tilt Swivel 1024x768 .28 dp
- Keytronics 101 Enhanced Keyboard w/Dust Cover
- 1320 DPI Serial Mouse
- Mouse Pad
- Cables and Manuals

ONLY $1,269
Complete

AMD 486-40

Pacer Fantasy

- AMD 80486 40MHz w/256k Cache
- 4MB RAM, Exp. to 32MB
- AMD 486-40 CPU
- Built-in Math Coprocessor
- TEAC 1.2 High Density Floppy
- TEAC 1.44 High Density Floppy
- Conner 170 Meg Hard Disk Drive
- Dual Hard/Floppy Controller
- 2 Serial, Parallel, Game
- Vertical or Desktop Case
- 230 Watt Power Supply, Dual Fan
- 32,000 Super Hi Color VGA Graphic Card w/1 Meg
- 14" Non-Interlaced Super Hi-Res Edge to Edge VGA Color Monitor Tilt Swivel 1024 x 768 .28 dp
- Keytronics 101 Enhanced Keyboard w/Dust Cover
- 1320 DPI Serial Mouse
- Mouse Pad
- Cables and Manuals

ONLY $1,469
Complete

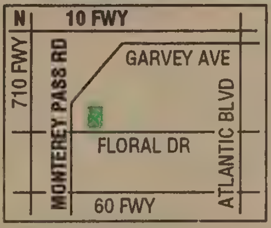
486DX-33 VL Bus

Pacer Supreme

- 80486DX-33MHz w/256k Cache
- 4MB RAM, Exp. to 128MB
- Intel 486DX-33 CPU
- Upgradable to 66/Intel Overdrive Socket Ready
- 8 Expansion Slot, 3VL Bus slot
- Built in Math Coprocessor
- TEAC 1.2 High Density Floppy
- TEAC 1.44 High Density Floppy
- Maxtor 245 Meg Hard Disk Drive
- Dual Hard/Floppy Controller
- 2 Serial, Parallel, Game
- Vertical or Desktop Case
- 230 Watt Power Supply, Dual Fan
- 32 Bit VL Bus 16.7 M Color Graphic Accelerator w/1 Meg exp. to 2 Meg on board
- 14" Non-Interlaced Super Hi-Res Edge to Edge VGA Color Monitor Tilt Swivel 1024 x 768 .28 dp
- Keytronics 101 Enhanced Keyboard w/Dust Cover
- 1320 DPI Serial Mouse
- Mouse Pad
- Cables and Manuals

ONLY $1,469
Complete

- Quality Products
- Friendly Service
- Great Prices
- Free Consultation
- Years of Experience



We Accept Government & University Purchase Orders!

TERMS: C.O.D., cash, Company & University POs on approval. All returns must have an RMA number. Prices do not include shipping. Prices subject to change without notice. Listed names of products are registered trademarks of their respective companies. Pacer USA is a trademark of Power Tech Harrington, Inc.

FINANCING AVAILABLE 90 DAYS NO INTEREST

486DX2-66

Pacer Winner

- 80486 DX2 66MHz w/256k Cache
- 4MB RAM, Exp. to 128MB
- Intel 486DX2-66 CPU, heat sink
- Intel Overdrive Socket Ready
- AMI Bios, 8 Expansion Slots
- Built in Math Coprocessor
- TEAC 1.2 High Density Floppy
- TEAC 1.44 High Density Floppy
- 130 Meg Hard Disk Drive
- Dual Hard/Floppy Controller
- 2 Serial, Parallel, Game
- Vertical or Desktop Case
- 230 Watt Power Supply, Dual Fan
- 32 Bit VL Bus 16.7 M Color Graphic Accelerator w/1 Meg exp. to 2 Meg on board
- 14" Super Hi-Res Edge to Edge VGA Color Monitor Tilt Swivel 1024x768 .28 dp
- Keytronics 101 Enhanced Keyboard w/Dust Cover
- 1320 DPI Serial Mouse
- Mouse Pad
- Cables and Manuals

ONLY $1,599
Complete

486DX2-66 VL BUS

Pacer CD

- 80486 DX2 66MHz w/256k Cache
- 4MB RAM, Exp. to 128MB
- Intel 486DX2-66 CPU, heat sink
- Intel Overdrive Socket Ready
- AMI Bios, 8 Expansion Slots
- Built in Math Coprocessor
- TEAC 1.2 High Density Floppy
- TEAC 1.44 High Density Floppy
- Conner 170 Meg Hard Disk Drive
- IDE Dual Hard/Floppy Controller
- 2 Serial, Parallel, Game
- Vertical or Desktop Case
- 230 Watt Power Supply, Dual Fan
- 32 Bit VL Bus 16.7 M Color Graphic Accelerator w/1 Meg exp. to 2 Meg on board
- 14" Non-Interlaced Super Hi-Res Edge to Edge VGA Color Monitor Tilt Swivel 1024x768 .28 dp
- Keytronics 101 Enhanced Keyboard w/Dust Cover
- 1320 DPI Serial Mouse
- Mouse Pad
- Cables and Manuals
- **Mitsumi CD ROM 350 NS**
- **CD ROM Interface**

ONLY $1,869
Complete

486DX2-66 Local BUS

Pacer Accelerator

- 80486 DX2 66 VL Bus w/256k Cache
- 4MB RAM, Exp. to 128MB
- Intel 486DX2-66 CPU, heat sink
- Intel Overdrive Socket Ready
- TEAC 1.2 High Density Floppy
- TEAC 1.44 High Density Floppy
- Maxtor 345 Meg Hard Disk Drive
- 32 Bit VL Bus Dual/Hard Floppy Controller
- 2 Serial, Parallel, Game
- Vertical or Desktop Case
- 230 Watt Power Supply, Dual Fan
- 32 Bit VL Bus 16.7 M Color Graphic Accelerator w/1 Meg exp. to 2 Meg on board
- 15" Flat Screen Super Hi-Res Edge to Edge VGA Color Monitor Tilt Swivel 1280x1024 .28 dp
- Keytronics 101 Enhanced Keyboard w/Dust Cover
- 1320 DPI Serial Mouse
- Mouse Pad
- Cables and Manuals

ONLY $1,969
Complete

FAX/MODEMS

2400 Internal Modem w/ phone cable and software	$39
9600 Fax/2400 Int. Modem	$59
w/WinFax Software, Phone Cable 14,400 Fax/Modem	$198

CD ROMS

CD ROM 350 ns Internal w/ Sound Card and Speakers	$295

ADD ON CARDS

32 Bit IDE I/O	$79
Diamond Speedstar VL Bus 1MB 1280x1024 Accelerator	$169
32 Bit VESA LB Graphic Expandable to 2MB	$139

NETWORKS

Novell 4.0 Netware Up to 1000 Users	CALL
Ethernet Network Card 16B	$98

ACCESSORIES

Power Center Surge Surge Protector w/Modem Protection	$35
Joystick	$15

KEYBOARDS

Japan Made 101 Keyboard	$38
Keytronic 101 Keyboard	$45

POWER SUPPLIES

200 Watt UL	$38
230 Watt	$48

CHASSIS

Vertical Case w/PS	$69
Desktop Case w/PS	$69
Super Digital Vertical	$99
Dual Fan	$9

Custom CONFIGURATIONS AVAILABLE

5 Reasons That Make Pacer U.S.A. Computer Systems Successful:

Power & Performance of Pacer USA Systems
Assurance to our customers
Commitment to being the best
E xcellence in everything we do
Reliability behind our work

Extra at NO COST!

72 Hours Burn-In Test
All Systems Carry One Year Parts & 2 Years Labor
Special Discount Prices on Systems Purchase
Lifetime Technical Support

Special thanks for using our computer systems:

Coca-Cola
County of Los Angeles
Honeywell
Micro Medic
Naval Warfare

MICROTIMES STOCK INDEX FALLS FOR MONTHLY PERIOD

For the monthly period ended June 24, the MicroTimes Stock Index cascaded 287.98 points, or 6.32%, and came crashing down to 4266.52. The Dow Jones Industrial Average also traveled a southerly course, decreasing 64.22 points, or 1.81%, en route to a close of 3490.61. For the month, declining issues outweighed advancing issues by a 20 to 11 count, with one stock reaching a new 52-week low.

Adobe Systems recently reported second-quarter earnings as follows: earnings per share declined to 62 cents, compared to 65 cents a share one year earlier. Revenue for the company was reported at a record high of $79.7 million compared to $69.6 million in the previous comparable quarter. For the month, Adobe Systems eased backwards as the stock fell $2.38, or 3.51%, and came to a close of $65.25.

Novell and Oracle announced a group project to produce a product called Oracleware. This new product will help unite leading network and information technology with sales, support, and distribution programs. For the period, Novell fell $3.75 before coming to rest at $25.75. On the other side of the ledger, Oracle inched forward 63 cents, or 1.43%, and closed the trading at $44.25.

BellSouth announced an 11-cent loss per share for the second quarter due to debt refinancing, compared to a 94-cent gain in the comparable period one year ago. The company stated the refinancings would save $500 million in interest expenses over the period of the new issues. The stock price increased $3.00 for the period and closed at $55.00.

Commodore International received the dubious honor of being largest percent loser of the month, as it fell 34.38% before finally coming to rest at $2.63. Commodore hit a new 52-week low for the period. The company announced that third-quarter losses amounted to $5.37 a share compared to a 12-cent-per-share gain one year ago.

In closing, Intel and Informix completed previously announced 2-for-1 stock splits. For the month, Intel closed at $53.75, and Informix closed at $22.75. ■

EXCH	COMPANY	TICKER SYMBOL	CLOSING PRICE 05/27/93	CLOSING PRICE 06/24/93	NET CHANGE IN MONTH	PERCENT CHANGE IN MONTH	P/E RATIO	ANNUAL DIVIDEND RATE	ANNUAL DIVIDEND YIELD	ANNUAL HIGH	ANNUAL LOW
	SOFTWARE										
OTC	Adobe	ADBE	67.63	65.25	–2.38	–3.51	33	0.40	0.61	65.25	25.25
OTC	Aldus	ALDC	16.25	16.25	0.00	0.00	90	0.00	0.00	21.00	10.25
OTC	Autodesk	ACAD	50.75	54.00	3.25	6.40	27	0.48	0.89	56.50	32.75
OTC	Borland	BORL	25.88	22.38	–3.50	–13.53	–	0.00	0.00	54.50	17.50
OTC	Informix	IFMX	22.50	22.75	0.25	1.11	27	0.00	0.00	24.88	6.06
OTC	Lotus	LOTS	35.50	33.00	–2.50	–7.04	19	0.00	0.00	36.75	14.75
OTC	Microsoft	MSFT	94.13	88.50	–5.63	–5.98	30	0.00	0.00	95.25	65.50
OTC	Novell	NOVL	29.50	25.75	–3.75	–12.71	28	0.00	0.00	35.25	22.50
OTC	Oracle (H)	ORCL	43.63	44.25	0.63	1.43	63	0.00	0.00	44.25	14.00
OTC	Software Publishing	SPCO	7.38	7.25	–0.13	–1.69	–	0.00	0.00	15.00	6.75
OTC	Symantec	SYMC	17.13	14.13	–3.00	–17.52	–	0.00	0.00	44.25	5.88
	HARDWARE										
OTC	Apple	AAPL	57.38	41.75	–15.63	–27.23	10	0.48	1.15	65.25	41.50
OTC	AST Research	ASTA	17.00	14.75	–2.25	–13.24	9	0.00	0.00	24.25	11.25
NYS	Commodore (L)	CBU	4.00	2.63	–1.38	–34.38	–	0.00	0.00	12.50	2.63
NYS	Compaq	CPQ	58.88	52.50	–6.38	–10.83	16	0.00	0.00	59.75	23.13
NYS	Digital Equipment	DEC	44.75	40.63	–4.13	–9.22	–	0.00	0.00	49.25	30.38
OTC	Dell	DELL	23.63	20.38	–3.25	–13.76	9	0.00	0.00	49.88	15.00
NYS	Hewlett–Packard	HWP	84.88	80.75	–4.13	–4.86	23	1.00	1.24	88.88	50.25
NYS	IBM	IBM	53.25	48.75	–4.50	–8.45	–	2.16	4.43	100.38	45.88
NYS	Silicon Graphics	SGI	36.75	35.25	–1.50	–4.08	–	0.00	0.00	37.38	16.13
OTC	Sun Microsystems	SUNW	31.13	28.63	–2.50	–8.03	26	0.00	0.00	41.00	22.50
NYS	Xerox	XRX	75.50	79.00	3.50	4.64	–	3.00	3.80	88.88	66.75
NYS	Tandy	TAN	32.00	29.25	–2.75	–8.59	26	0.60	2.05	32.13	22.25
	CPU'S										
NYS	Advanced Micro Devices	AMD	29.38	21.25	–8.13	–27.66	9	0.00	0.00	32.88	7.38
OTC	Intel	INTC	56.38	53.75	–2.63	–4.66	16	0.20	0.37	60.63	27.13
NYS	LSI Logic	LSI	13.63	14.13	0.50	3.67	–	0.00	0.00	14.13	4.88
NYS	Motorola (H)	MOT	82.25	83.63	1.38	1.67	34	0.44	0.53	83.63	37.13
	COMMUNICATIONS										
NYS	AT&T	T	61.63	62.25	0.63	1.01	21	1.32	2.12	62.38	40.63
NYS	BellSouth Corp.	BLS	52.00	55.00	3.00	5.77	17	2.76	5.02	57.50	46.75
OTC	MCI (H)	MCIC	52.88	56.63	3.75	7.09	24	0.10	0.18	56.63	29.88
NYS	Northern Telecom	NT	36.25	36.63	0.38	1.03	18	0.36	0.98	46.00	30.50
NYS	Pacific Telesis	PAC	47.38	47.75	0.38	0.79	22	2.16	4.52	49.38	39.25

KEY: NYS = NEW YORK ASE = AMERICAN OTC = OVER THE COUNTER
(H) = NEW HIGH REACHED IN PERIOD (L) = NEW LOW REACHED IN PERIOD

MARKET DIARY:

ADVANCES	11
DECLINES	20
UNCHANGED	1
NEW HIGHS	3
NEW LOWS	1

MOST ACTIVE ISSUES:

LARGEST DOLLAR GAINER	MCI	$ 3.75
LARGEST DOLLAR LOSER	Apple	$ –15.63
LARGEST PERCENTAGE GAINER	MCI	7.09 %
LARGEST PERCENTAGE LOSER	Commodore	–34.38 %

	CLOSE 05/27/93	CLOSE 06/24/93	NET CHANGE IN MONTH	PERCENT CHANGE IN MONTH
MICROTIMES STOCK INDEX	4554.50	4266.52	–287.98	–6.32
DOW JONES INDUSTRIAL AVERAGE	3554.83	3490.61	–64.22	–1.81
STANDARD & POOR'S 500 STOCK INDE	452.41	443.19	–9.22	–2.04
N.Y.S.E. COMPOSITE	249.43	246.60	–2.83	–1.13
NASDAQ COMPOSITE	704.59	688.72	–15.87	–2.25

CLOSING QUOTES FOR GRAPH:		
DATE	MICRO TIMES	DOW JONES
12/10/92	3825.83	3312.19
01/11/93	4020.09	3262.75
02/05/93	4083.40	3442.14
03/04/93	4127.80	3398.91
04/01/93	4196.89	3439.44
04/29/93	4074.63	3425.12
05/27/93	4554.50	3554.83
06/24/93	4266.52	3490.61

Copyright Nordby International, Inc. Louisville, CO

This information is based on sources believed to be reliable, and while extensive efforts are made to assure its accuracy, no guarantees can be made. Nordby International and Microtimes assume no liability for any inaccuracies. For phone numbers, addresses or any additional financial information on any of the above companies call Nordby International at (303) 666–5903.

PC SERVICE

WHY BUY FROM US?

- We Service What We Sell
- We Support Our Customers
- We Won't Rest Till It's Right!

LOW COST 386

- 386SX-33 MHz
- 2MB Ram
- 1.2MB & 1.44 Floppy Drive
- 85MB Hard Drive
- 2 Serial, 1 Parallel, 1 Game Port
- SVGA Card
- SVGA 1024x768 Color Monitor
- Mini-Tower Case
- 101 Keyboard
- Serial Mouse

$774

386DX-40

- 386DX-40 MHz, 128K Cache
- 4MB Ram
- 1.2MB & 1.44 Floppy Drive
- 120MB Hard Drive
- SVGA 1MB Card
- Super VGA 1024x768 Color Monitor .28
- 101 Keyboard
- Mini-Tower Case
- Serial Mouse

$994

486DX-33

- 486DX-33 MHz, 256K Cache
- 4MB Ram
- 1.2MB & 1.44 Floppy Drive
- 120MB Hard Drive
- SVGA 1MB Card
- Super VGA 1024x768 Color Monitor .28
- 101 Keyboard
- Mini-Tower Case
- Serial Mouse

$1264

486DX-33

VESA LOCAL BUS

- 486 DX-33 MHz, VESA LB, 256K Cache
- 4MB Ram
- 1.2MB & 1.44 Floppy Drive
- 120MB Hard Drive
- IDE VESA LB
- Cirus Logic VESA LB
- Super VGA 1024x768 Color Monitor .28
- 101 Keyboard
- Mini-Tower Case
- Serial Mouse

$1314

486DX-50

- 486DX-50 MHz, 256K Cache
- 4MB Ram
- 1.2MB & 1.44 Floppy Drive
- 245MB Hard Drive
- SVGA 1MB Card
- Super VGA 1024x768 Color Monitor .28 Non-Interlaced
- 101 Keyboard
- Mini-Tower Case
- Serial Mouse

$1514

486DX2-66

- 486DX2-66 MHz, 256K Cache
- 4MB Ram
- 1.2MB & 1.44 Floppy Drive
- 245MB Hard Drive
- SVGA 1MB Card
- Super VGA 1024x768 Color Monitor .28 Non-Interlaced
- 101 Keyboard
- Mini-Tower Case
- Serial Mouse

$1614

HP BLOWOUT

HP LASERJET 4

$1369

HP LASERJET IIIP

$845

ADD MS ORIGINAL DOS 6.0 & MS ORIGINAL WINDOWS 3.1

FOR ONLY $89 with any system purchase

UPGRADE YOUR 286

386DX 40MHZ w/128K Cache & 4MB Ram	$329.00
486DX 33MHZ w/256K Cache & 4MB Ram	$589.95

SPECIALS

14.4K Baud Fax Modem, Extended Warranty	$179.95
2400 Baud Modem/9600 Baud Int. Fax, Extended Warranty	$49.95
Logitech FotoMan (Digital Camera)	$449
MULTIMEDIA UPGRADE KIT: Sound Blaster Pro, CD-ROM, 5 CD Titles	$399

NETWORKING SPECIALISTS

NOVELL
LANTASTIC
DEALER

FACTORY AUTHORIZED REPAIR ON MOST BRANDS

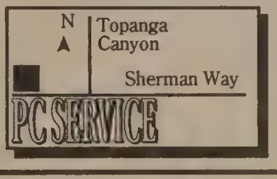
PRICES AND AVAILABILITY SUBJECT TO CHANGE WITHOUT NOTICE

PC SERVICE

22017 Sherman Way • Canoga Park, CA 91303

818-887-0040

Fax
818-887-1470



Public Access: Some Legislators Still Don't Get It

It Is A Moral Outrage For A Democratic Government To Demand High Fees As A Prerequisite For Equal Access To The Process Of Governance

BY JIM WARREN

REALIZABLE FANTASIES

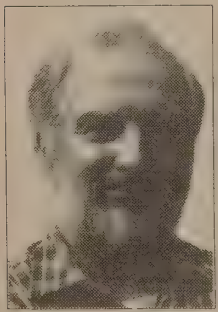
First, many thanks for the letters and e-notes urging more reporting and advocacy of access to computerized public records. We will continue.

Our recent focus has been Assembly Bill 1624 (Bowen, D-Torrance)—mandating free, timely, public, online access to California's already computerized public legislative information via the largest public, nonprofit, nonproprietary network of networks, the Internet.

CURRENT ACCESS ONLY FOR THE WEALTHY

So far, invaluable online access is limited only to those corporations and special interest groups wealthy enough to pay high fees to the few private distributors that functionally monopolize access—primarily Legi-Tech, State Net, and several other services to which they redistribute data.

They get legislative data under a cozy arrangement that pours several hundred thousand off-budget dollars annually into the coffers of the Legislative Counsel who runs the Legislative Data Center (LDC)—the same Counsel who gives technically naive legislators advice about online access through the LDC and legally advises them about AB1624. (Legally, anyone can buy the data—at 50 cents/kilobyte on magtape, FOB Sacramento; 700+ MB for a legislative session.)



Copyright © 1993 by Jim Warren, 345 Swett Rd., Woodside CA 94062; email/jwarren@well.sf.ca.us. Permission herewith granted to copy-in-full for any nonprofit use.

GLIMMERS OF EQUITABLE ACCESS

Exclusively due to widespread public support and a flood of faxes and letters, AB1624 passed the Assembly Rules Committee, 8-0, the Assembly Ways and Means Committee, 21-0, and the full Assembly, 78-0.

But it is a false dawn for freedom—just the first turf tiff.

The bill must pass the Senate—in particular the Rules Committee run by David Roberti (D-Van Nuys). He might be supportive, but there is widespread opinion that the Senate's chief executive officer will vigorously oppose it behind the scenes, as did his counterpart in the Assembly.

If it passes Roberti's committee and the Senate, then the Assembly must concur with some improving amendments—or kill the bill. Then Governor Wilson would have to sign it—in spite of his deputy chief of staff being executive vice president of State Net.

Only public pressure will keep AB1624 alive.

ROYALTIES FROM DATA SERVICES

This bill would make the public data available to anyone for free. Some legislators—notably Rules Committee chair John Burton (D-San Francisco), who has the clout to kill the bill—are concerned that entrepreneurs would get free copies of the data and sell it. They are undoubtedly thinking of the current high-priced distributors.

LEGISLATORS HAVEN'T THOUGHT IT THROUGH

Swamped with other legislation—and lacking objective advice from loot-seeking bureaucrats—these legislators simply haven't realized:

- Who would pay for public information that was widely and readily available for free?
- Entrepreneurs could get folks to pay *only* for significant added value—thus paying for the value-added, not for the free public data. The fact that possible value-added services might be based on public legislative data no more justifies charging royalties than it would be to charge lawyers who base their services on public statutes.
- Even for value-added services, competition would drive prices down, replacing the current bureaucracy-supported sky-high pricing.
- Electronic public records should be treated like paper records—and lobbyists, interest groups, legal reporting services, etc., can freely duplicate and distribute paper bills, charging fees for their copying and distribution services.
- Similarly, libraries that carry paper copies of legislative data pay no royalties—even those that charge for access.
- With about 1.5 million Internet hosts and twenty thousand FidoNet BBSes, policing such legislative permission, contract requirements, and royalty collection would be ludicrous—generating nothing but ridicule, disregard, and fury for a Legislature seeking to profit from public access.
- *If* a BBS or Internet-host operator charges anything for access, it's usually a single fee for a wide range of services and information access—California's legislative data would be a wee tiny portion. And almost none monitor which customer uses what services or accesses which data.
- Demands for contracts and impractical royalties would simply suppress public access—especially since most operators that charge anything at all typically charge perhaps 25 cents per hour or $15 to $30 per month.
- Rather than attempting to control and

"ATC Computer has been selling low cost IBM Computer System for last 9 years."
"Check them out"

GUARANTEED LOWEST PRICE

ATC
Computer

Happy, Loyal Customers
That's our Goal!

Happy Customers List

- * City of Los Angeles
- * Department of Water & Power
- * L.A. Police Department
- * XEROX
- * U.C.L.A
- * Improv
- * Toshiba
- * KCBS
- * KTLA
- * METRO

"Let our experience and top notch computers take you to the limit."

Systems Includes

- ✓ 128K Cache(Upgradable to 256K)Except 386SX system
- ✓ 4MB RAM(Upgradeable to 32MB)
- ✓ Fast 120MB IDE Hard Drive
- ✓ Reliable Teac 3.5" & 5.25" floppy drives
- ✓ 14" SVGA Color Monitor(1024x768)
- ✓ Trident SVGA Video Card(VESA Standard)
- ✓ IDE I/0 w/2 Serial/Parallel/Game ports
- ✓ 101 Enhanced Keyboard
- ✓ Mini-Tower Case

	Cash	Reg.
386sx-40	$745	$775
386dx-40	$795	$845
486dlc-33	$895	$945
486dlc-40	$995	$1075
486dx-33	$1075	$1145
486dx-50	$1275	$1345

Options & Upgrades: 8MB RAM upgrade - $132 : .28 DPI Monitor upgrade - $50 : .28DPI Non-Interlaced Monitor - $90
170MB Hard Drive upgrade - $65 : 210MB Hard Drive upgrade - $90 : 245MB HD upgrade - $125
Trident 1MB SVGA Card upgrade - $20 : Western Digital's Windows Accerator Card w/1MB - $80 : Desk-top Case upgrade - $20
Mid-tower Case upgrade - $35 : AST Keyboard upgrade - $20 : DOS 6.0 - $69 : Windows 3.1 - $40

Systems Includes

- ✓ Intel 8K int./256K ext. Cache
- ✓ 8MB RAM(Upgradeable to 32MB)
- ✓ Fast 200MB IDE Hard Drive (15ms)
- ✓ Reliable Teac 3.5" & 5.25" high density floppy drives
- ✓ 14" SVGA CTX Non-Int. Mon. (1024x768) .28 DPI
- ✓ True color Windows Accelerator up to 1280x1024, 16M Color
- ✓ IDE I/0 w/2 Serial/Parallel/Game
- ✓ AST 101 Enhanced Keyboard
- ✓ Mini-Tower Case

	Cash	Reg.
486dx-33	$1345	$1495
486dx-50	$1545	$1625
486dx-33vl VESA Local Bus w/32 bit IDE Cont.	$1445	$1525
486dx-66vl VESA Local Bus w/32 bit IDE Cont.	$1675	$1775
486dx-33ev EISA/VESA Combo Bus w/32 bit EISA IDE Cont.	$1645	$1745
486dx-66ev EISA/VESA Combo Bus w/32 bit EISA IDE Con.	$1845	$1975

Options & Upgrades : 16MB RAM upgrade - $375 : 245MB Hard Drive upgrade - $50 : 340MB Hard Drive upgrade - $150
CTX 15" Monitor upgrade - $145 : CTX 17" Monitor upgrade - $525 : Desk-top case upgrade - $20 : Mid-tower case upgrade - $35 : Full-tower case upgrade - $65 (CTX Monitor includes 2 year warranty)

Multi-Media Pkg. # 1

$455

* Sound Blaster Pro * Panasonic CD-ROM Drive(340ms) * MS-Bookshelf * MS-Works 4 windows * Software Library(Actionware, Authorware Star, Tempra) * Creative Lab's Sound CD * Sherlock Holmes Vol.1 * Pair of Hi-fi speakers * Cables & documentaions

Multi-Media Pkg. #2

$555/Int. $655/Ext.

* Sound Blaster Edutainment CD 16 Upgrade Kit * Sound Blaster Pro 16 (Quality 16 bit stereo sound) * Panasonic CD-ROM Drive(340ms) * Pair of Hi-fi amplified speaker * Loom * The Animals * Secret Weapons of Luftwaffe * Carmen San Diego * Just Grandma and Me * Multimedia Encyclopedia * Monkey Island * Sherlock Holmes * Cables & documentations

Sound Blaster Pro(Stereo) - $169
Sound Blaster 16 ASP - $239
SoundMachine(Sound Blaster, Pair of speakers Joystick) - $115
Mitsumi CD-ROM Drive(340ms) - $195
Texel DM-3024 CD-ROM Drive(240ms w/ SCSI Card) - $455
9600 / 2400 int. fax/modem - $55
14.4 / 9600 int. fax/modem - $195
Mitsumi 101 Enh. Keyboard - $20
Colorado 250MB Tape Backup - $225

1 Year Parts & Lifetime Labor Warranty

Main Store
7150 Beverly Blvd.
Los Angeles, CA 90036
(213)938-6622

Orange Branch
2440 N. Glassell, Unit.M
Orange, CA 92665
(714)974-9868

Torrance Branch
15800 Hawthorne, Unit D
Lawndale, CA 90260
(310)370-2655

Prices subject to change without notice. Limited quantity, while supply last.

profit from others' distributing public information, *legislators should realize that electronic information distribution is simply a populist technology offering the same functions as the Constitutionally protected free press—essential to a free society.*

ENCOURAGE HIGH-TECH INFRASTRUCTURE

California legislators should *encourage*—not deter—the expansion and use of the state's information industry and infrastructure. It creates many of the best jobs in the state. Making public records public via that infrastructure—freely and equally accessible to all—will further contribute to its development and use.

WHY IS IT IMPORTANT?

Public access to government records is prerequisite for *informed* participation in the process of governance.

California has seven hundred thousand to a million or more citizens using computers connected or gatewayed to the public Internet—most users having *free* access at work or school.

Timely access is essential if anyone other than capitol insiders and well-funded lobbyists are to functionally participate in the legislative process.

And—convenient, economical access is essential if citizens are to verify the accuracy (or sloppiness) and objectivity (or bias) of news-media reports.

Democracy and freedom survive only in the presence of timely public access to information about government.

WHO WOULD IT SERVE?

A 1989 US Census Bureau study reported that seventy-five million Americans had daily contact with computers (thus, eight to ten million of California's 31.5 million)—37% of all adults, 46% of all students.

The Internet had about 727,000 host computers in early 1992, and 1,313,000 hosts a year later—over 80% growth in one year.

CompuServe, America Online, MCImail, GEnie, Delphi, and numerous other nets are gatewayed to the Internet, as is FidoNet, which connects over twenty thousand mostly free BBSes (bulletin-board systems).

Ten to twenty million people have direct or gatewayed access to the Internet, with growth variously estimated at 8% to 15% per *month.*

Thus, California has seven hundred thousand to a million or more citizens using computers connected or gatewayed to the public Internet—most users having *free* access at work or school.

Anyone *can* have access, sometimes without cost through the FreeNets, community networks, some BBSes, or libraries; otherwise for about double the cost of a monthly metro newspaper—but offering orders of magnitude more services and information in much more useful (computerized) form.

TAXPAYER COSTS—AND SAVINGS?

The Internet file-server we have proposed would cost about $5000, plus about $200/month to operate. Even the $50,000 that Legislative Counsel wants to implement AB1624 boils down to about 5 cents per year per person for the million-or-so Californians already online—not worth the billing costs.

Legi-Tech and State Net collected over $285,000 from California's Department of General Services, alone, in 1992, for online access to public legislative data.

The League of California Cities and the California State Association of Counties (CSAC) each have State Net contracts providing (tax-paid) online access for their member cities and counties. The League and CSAC each receive a 9 1/2% kickback—uh, commission—*each* reportedly receiving $25,000 to $30,000 annually. Thus, California cities and counties are paying State Net $520,000 to $630,000 for online access to public legislative data.

In comparison, in 1992, Legi-Tech and State Net paid the Legislative Counsel about $295,000—big profits in the absence of competition.

And this only *hints* at what other agencies and districts—and their lobbyists—might be paying big local tax bucks to access public data; district attorneys, public defenders, school districts, water districts, sewer districts, open space districts, etc.

HOW MUCH SHOULD WE PAY? AGAIN?

Tax-paying citizens and corporations have *already* paid for computerizing our public legislative records—created to enhance the legislative process to which the public has so little useful access.

Agencies *should* charge the direct, incremental cost of duplication for providing copies of public records—but not when billing costs wildly exceed pennies-per-year copying costs.

However, access to legislative information must not continue to be limited only to those wealthy enough to pay fees far in excess of copying costs. ***It is a moral outrage for a democratic government to demand high fees as a prerequisite for equal access to the process of governance.***

TAKE ME TO YOUR LEADERS

The preceding could be quickly excerpted into "Resolutions" for organizations supporting AB1624—community groups, non-profit organizations, and especially local, city, and county agencies and districts that expend *considerable* staff time and funds seeking information about legislation impacting them.

Clip and mail, now, to your local civic groups, boards, councils, and commissions.

TECHNO TALKS

I often speak on technology, government, freedom and privacy, and also about personal computing's history and futures. I will be a panelist discussing these issues at the Inet'93 Internet conference in San Francisco, August 18th (216/425-8333), and will speak at the OneBBScon '93 convention in Colorado Springs, August 25–29 (303/693-5253). ■

Warren founded InfoWorld, Wireless Digital, Initiative, Inc. and one of the nation's largest public microcomputer conventions. He was founding host of PBS's Computer Chronicles, *founding editor of* Dr. Dobb's Journal, *and has chaired various trade and professionals' organizations. He holds graduate degrees in computing (Stanford), medical information science (UC Medical Center), and mathematics & statistics. He has been a computer professional since 1968, and was a mathematics teacher and professor for ten years before that.*

He organized and chaired the landmark First Conference on Computers, Freedom & Privacy (1991) and received one of the first Electronic Frontier Foundation Pioneer Awards (1992). He is a member of the board of directors of Autodesk, Inc., and also chairs the Communications Committee of the California Public Records Act Reform Coalition.

TOLL FREE **1-800-700-COMP**

CompuTek

FINANCING AVAILABLE
WITHIN 20 MINUTES
1 Year Free Interest
Corporate Accounts Welcome

WE WILL BEAT ANY SYSTEM PRICE IN ANY MAGAZINE.

VISA MasterCard DISCOVER AMERICAN EXPRESS

486DX/33MHz

$989

- 486DX/33MHz (INTEL)
- 256K CACHE
- 230W POWER SUPPLY
- MINI OR DESK TOP CASE
- 2MB RAM
- 130MB HARD DISK
- SUPER I/O & IDE CARD
- 101 KEYBOARD
- 1.2MB FLOPPY DRIVE
- 1.44MB FLOPPY DRIVE
- SVGA MONITOR W/Card
- 1 YEAR PARTS WARRANTY
- *LIFETIME LABOR WARRANTY*
- 72 HOURS BURN-IN TEST

intel inside

486DX2/66 Local Bus

$1299

- 486DX2/66MHz (INTEL)
- 256K CACHE
- 230W POWER SUPPLY
- MINI OR DESK TOP CASE
- 2MB RAM
- 130MB HARD DISK
- LOCAL BUS CONTROLLER (32 BIT)
- 101 KEYBOARD
- 1.2MB FLOPPY DRIVE
- 1.44MB FLOPPY DRIVE
- SVGA MONITOR
- LOCAL BUS VIDEO CARD (32 BIT)
- 1 YEAR PARTS WARRANTY
- *LIFETIME LABOR WARRANTY*
- 72 HOURS BURN-IN TEST

intel inside

UNBEATABLE PRICES FOR QUALITY COMPUTERS!!!

386SX/33MHz
$209

386DX/40MHz
(64K CACHE)
$245

486DLC/40MHz
(128K CACHE)
(CYRIX)
$319

486DX/33MHz
(256K CACHE)
$489

SYSTEM INCLUDES

- MINI TOWER CASE
- 230W POWER SUPPLY
- 1MB RAM
- SUPER I/O & IDE CARD
- 1.44MB FLOPPY DRIVE
- 2 SERIAL/1 PARALLEL/1 GAME
- 101 KEYBOARD
- CLOCK & CALENDAR

- 1 YEAR PARTS WARRANTY
- LIFETIME LABOR WARRANTY
- 72 HOURS BURN-IN TEST

486DX2/50MHz
(256K CACHE)
$595

486DX/50MHz
(256K CACHE)
$619

486DX2/66MHz
(256K CACHE)
$699

486DX2/66MHz
(LOCAL BUS)
(256K CACHE)
$749

UPGRADES

1M TO 2M	$35
2M TO 4M	$70
1M TO 4M	$95
1M TO 8M	$215
MOUSE	$10
MOUSE PAD	$5
TRACKBALL MOUSE	$40
JOYSTICK	$20
MODEM	$30
FAX MODEM	$50
1.2M FDD	$45
1.44M FDD	$40
250MB BACKUP DRIVE	$182

PRINTERS & SCANNERS

PANASONIC 1123	$179
EPSON LQ570 PLUS	$229
PANA LASER 4410	$599
HP LASER IV	$1335
HP DESKJET 500	$359
HP DESKJET 500C (Color)	$485
HP DESKJET 550C (Color)	$685
HANDSCANNER	$125
MICROTEC DESKTOP COLOR SCANNER	$895

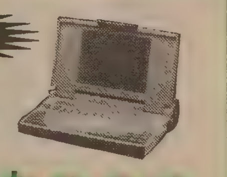
MONITORS

MONO	$85
SVGA 14" (0.39mm)	$199
SVGA 14" (0.28mm)	$239
SVGA 14" NON INTERLACED (0.28mm)	$265
SVGA 17" NON INTERLACED	$639

HARD DISKS

44MB IDE DRIVE	$99
85MB IDE DRIVE	$159
105MB IDE DRIVE	$165
130MB IDE DRIVE	$169
170MB IDE DRIVE	$199
210MB IDE DRIVE	$219
250MB IDE DRIVE	$239
340MB IDE DRIVE	$329
520MB IDE DRIVE	$669
1.5GB IDE DRIVE	CALL

NOTEBOOKS



- 386SX/20MHz
- 2MB RAM
- 85MB HARD DISK
- 1.44MB FLOPPY
- VGA LCD

$899

NETWORKS

- NOVELL CERTIFIED NETWARE ENGINEER
- NETWORK INSTALLATION SPECIALIST
- 5 USERS
- 10 USERS
- 20 USERS
- 100 USERS
- FREE ESTIMATE

Novell Gold Authorized Reseller

ARCNET 8 BIT	$50
ARCNET 16 BIT	$55
ETHERNET 8 BIT	$60
ETHERNET 16 BIT	$65

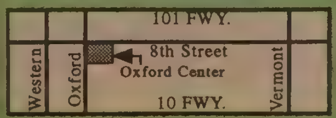
** Availability and Prices are subject to change without notice.*
** Computek is not responsible for any typographical errors.*

Prices based on cash discount.

9AM - 9PM MON - FRI
10AM - 6PM SAT

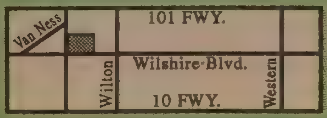
LOS ANGELES

3548 1/2 W. 8TH ST.
LOS ANGELES, CA 90005
TEL. (213) 383-9900
FAX (213) 385-1621



TRAINING CENTER

4015 WILSHIRE BLVD. 2ND FL.
LOS ANGELES, CA 90010
TEL. (213) 381-5431
FAX (213) 385-1621

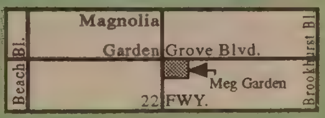


SEOUL, KOREA

A-340 HO ELECTRICLAND
YOUGSAN KU
SEOUL, KOREA
TEL: (02)715-6797-8
FAX: (02)704-4244

GARDEN GROVE

9042 GARDEN GROVE BL. #100
GARDEN GROVE, CA 96244
TEL. (714) 741-9494
FAX (714) 741-9498



FOR TECHNICAL SUPPORT CALL OUR BBS AT 714/558-1169

SINCE 1984

Experience + (Quality x Price) = LINNEX COMPUTERS, INC

Accept only the finest... Caviar WESTERN DIGITAL

486DX/33 LOCAL BUS SUPER BUNDLE

COMPUTER

- 486DX/33INTEL CPU (Upgradeable To 486DX/50, DXII/50/66)
- 3 LOCAL BUS VESA SLOTS and 4 ISA (Capable Of VESA Bus Mastering Simultaneously)
- 8K INTERNAL/256K EXTERNAL CACHE (4 Way Set Associate/Burst Mode Cache 20ns)
- TEAC 1.2 & 1.44 Floppies
- 4MB RAM 70ns (EXPANDABLE TO 32MB)
- 170MB HARD DRIVE (Pre-Formatted w/ Virus Protection & S/F)
- 32 BIT DATA ACCELERATOR IDE & I/O CARD (Increase Data Access As Much As 3 Times, 2S/1P/Game)
- 32 BIT LOCAL BUS, Cirrus Logic SVGA VIDEO GRAPHIC CARD (1280x1024 Res./16.7 Million Colors/1MB Memory)
- 1 YEAR LABOR / 1 YEAR PARTS WARRANTY

MICROSOFT® WINDOWS™ COMPATIBLE

- 14" VESA STANDARD MONITOR, NON-INTERLACED (.28/Flicker Free/1280x1024 Resolution)
- MINI TOWERCASE FCC/UL
- 101 KEY SCULPTURED KEYBOARD
- MICROSOFT COMPATIBLE MOUSE

LICENSED SOFTWARE

- MICROSOFT DOS 5.0 (Upgrade to Version 6.0...+$25)
- MICROSOFT WINDOWS 3.1
- MICROSOFT WORKS FOR WINDOWS (Word Processor Spread Sheet/Database)
- MICROSOFT PUBLISHER AND MONEY WORKING MODELS
- CENTRAL POINTS ANTI-VIRUS WINDOWS

SUPPORT

- ALL SOFTWARE PRE-LOADED/CONFIGURED
- 72 HOURS BURN-IN POLICY
- **LIFETIME TECHNICAL SUPPORT!**

BEST BUY!

$1585

OPTIONS

486DX/50 .. **CALL**
486DXII/50 **CALL**
486DXII/66 **CALL**

IDE Cache Controller, 2MB, VESA	+$190
IDE Cache Controller 512K, ISA	+$65
Diamond Stealth 24 VLB	+$85
ATI Ultra Pro/Mach 32, 2MB VRAM	+$330
Shamrock 15" Flat (1280x1024 & N.I. Monitor)	+$115
MAG MX15	+$295
340MB H/D	CALL

PC MAGAZINE EDITORS' CHOICE

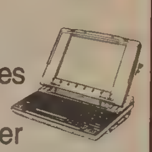
MULTIMEDIA

CREATIVE LABS EDUTAINMENT

- 16 Bit Sound Blaster Card
- Internal CD ROM + Controller
- 8-CD Titles & Software
- Stereo Speakers
- FREE Installation w/System Purchase

$595

Arche



- 486SLC-25MHz w/1K Cache
- 80MB Hard Drive
- 4MB RAM
- 10" Mono LCD
- 640x480, 32 Gray Scales
- 6 Hours Battery
- Carrying Case + Charger
- 3.5" 1.44MB Floppy **$1395**

AVANTI 425 PLUS

- 80MB Hard Drive
- 2MB Memory
- Fax/Modem
- Mono System

CALL

NOTEBOOK

- 386/25SX
- 2MB RAM
- 80MB H.D.
- Built-In Trackball
- 10" Super Twist LCD
- DOS 5.0/Windows 3.1
- Carrying Case & Charger
- Slim Size

$1295

NOTEBOOK OPTIONS

MultiMedia Package
Portable CD ROM
Ethernet Adapter
Cellular Phone Fax/Modem

CALL!

Tape Back-up
AC Adapter
Portable Printer
Pan Base Pointing Device

HOT SPECIALS!

★ Microsoft DOS V.6.0	$45
★ 486 VESA Motherboard (P24T Socket Ready)	$189
★ 486 Motherboard, 3 VESA Slots (No CPU, No RAM Takes Any 486 CPU/256K Cache)	$145
★ Cirrus Logic, VESA Local Bus SVGA Card Run to 50MHz, 1MB, 16.7 Million Colors	$125
★ 386/486 Motherboard, 64K Cache	$105
★ 9600 Send/Rec Fax/2400 Modem	$79
★ IDE Hard Drive 170/245MB	$215/$279
★ NE2000 Comp. Card, Jumpless 16 Bit BNC or 10 Base-T	$79
★ 250MB Archive Tape Drive	$199
★ Shamrock 14" SVGA 1024x768,0.28mm	$249
★ Shamrock 14" SVGA, 1024x768, 0.28mm Non-Interlaced Monitor	$279
★ Shamrock 15" Flat Screen (1280x1024) Non-Interlaced, 0.28mm	$419
★ MAG 15FX, 15" SVGA Monitor	$555
★ FOCUS Keyboard 2001/6000/8000	CALL

NETWORKS

Complete **NOVELL.** *4 User System* ***Lease for $249/month***

System Includes:

- 486-33 File Server, 4MB RAM, 200 MB Hard Drive, Floppy Drive, 16 bit Network Card, Mono Monitor, Printer Port, 101 Keyboard.

Service Maintenance Optional

- Four 386SX-33 Stations, each with 2MB RAM, 80MB Hard Drive, Floppy Drive, 16 bit Network Card, SVGA Monitor & Card, 101 Keyboard.
- Novell Netware 3.11 Software (5 Users), Cabling, Setup & Training.

Novell Authorized Reseller

386DX/33

- Mini Tower 1.2M & 1.44M TEAC Floppy
- 4MB Memory, 70ns
- 128K Cache
- 170MB Hard Drive, Conner
- SVGA Video Card, 1MB
- Shamrock SVGA Monitor
- 2S/1P/1G Port
- 101 Enhanced Keyboard
- Mouse

$950

386SX/33.....CALL

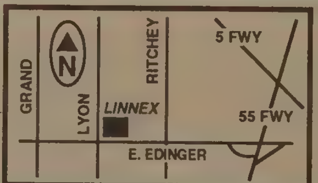
CALL FOR SYSTEM CONFIGURATION!

LINNEX COMPUTERS, INC

1701 E. Edinger, C3 Santa Ana, CA 92705

(714) 558-3399

Business Hours:
M-F 9:00am to 5:30pm
Fax (714) 558-3219



Complete Service Department On Premises

*Prices subject to change without notice

Sony Electronic Book Player DD-10EX

BY MITSU HADEISHI

RESOURCES:

Compact Publishing products for the Sony MMCD format
Multimedia Publishers Group
60 Cutter Mill Rd.,
Ste. 502
Great Neck, NY 11021
(516)482-0088

Sony DD-10EX Multimedia Data Discman Electronic Book Player
Sony Corporation
(201)930-SONY, or
1-800-222-SONY

Sony PIX-100 Multimedia CD-ROM Player
Sony Corporation
(201)930-SONY, or
1-800-222-SONY

About a year ago, Sony introduced the Data Discman Electronic Book Player, a handheld device which would play specially designed 3.5" CD-ROMs. More recently, Sony released an updated player, the DD-10EX, which has a number of improvements over the earlier model. In particular, the original Data Discman could only play CD-ROMs with the designation EBG (EB stands for "electronic book"), which contain only text and graphics, whereas the newer DD-10EX can play EBG and EBXA discs, which can also contain sound.

One could say this is the "multimedia" version of the Data Discman, although the graphics capability is quite limited (no animation, very slow drawing of graphics). (It does say "multimedia" on the machine's cover.)

The DD-10EX sells for about $500 street. It is quite portable; measuring approximately 4 3/8" x 1 3/4" x 6 3/8", the unit fits easily in the palm of the hand. It is too bulky to carry around in a pocket, however. Weighing in at 1lb. 3oz., it is a bit too heavy as well for that purpose. However, it is nevertheless quite portable, and one could easily carry it in a briefcase or purse for reference purposes.

It runs on AC power (with the included AC adapter), rechargeable battery (for 1.2 hours per charge using the included rechargeable battery), or regular battery (for three hours with the LCD backlight off, or 1.5 hours with the LCD backlight on).

Included with the reader are three discs; Passport's *World Travel Translator, The New Grolier Electronic Encyclopedia,* and Ira Levin's novel *Sliver,* in audiobook format. All three include audio and pictures, though they are used to very different effect in the different discs. Each disc comes with its own "electronic book caddy," which looks something like a large 3.5" floppy disk housing. The difference is that you can remove the optical disc from the housing (for cleaning, I suppose). The housing protects the CD-ROMs from dust, dirt, and scratches. Though optical discs are generally very resilient, if a CD-ROM gets scratched it could become unusable, since one cannot afford major data errors in a text application (as opposed to an audio disc, where the player can often recover from a major data dropout with only a slight "blip" in the audible sound).

The primary advantage of the Data Discman is its portability. The success of this technology, therefore, will be dependent on the portable applications for the unit.

The screen is large enough to hold nine lines of text plus a menu line; each line seems to have a maximum of thirty characters. There is no speaker; sound is played through the headphone jack, and the unit comes with small headphones. There is also an external video jack, set up for both PAL and NTSC (PAL is used abroad, and NTSC is used here in the States), so you can use it abroad without any problems (it also comes with a video cable, conveniently enough). However, the video display is in black and white; unlike the Sony Multimedia CD-ROM player, the video in this machine looks much the same on the big screen as it does on the built-in display. The LCD display is a bit difficult to read, however, despite the fact that it is back-lit, so there is a reason to use the television instead if it is available.

PARLEZ-VOUS FRANÇAIS?

The *World Travel Translator* is an eight-language phrasebook. You cannot simply type in sentences and expect the machine to translate them; this is not a dictionary or an automatic translator, but merely a phrasebook.

There are two basic ways to look up a desired phrase. You can type in a word that appears in the phrase (for example, I can type "taxi" and find two phrases: "Where can I get a taxi?" and "Will you please get a taxi for me?"). Another technique is to search for a phrase by using the menuing system. For example, after selecting the desired languages, I then select "Travel," then "Road," then I page down a couple of screens and find "Where can I get a taxi?" I suspect that most people would tend to use the keyword search technique, since it is generally a lot more efficient. The menuing technique could become rather tiresome as the person you're trying to talk with waits for you to negotiate the menus.

The phrasebook is very limited in scope (among many other words, I tried to look up "translator," as in "where can I find a translator since the phrase I want isn't in this book!?," but no luck), but it does include sound for all of the translated phrases—you don't have to know how to pronounce the given language, you can simply repeat what is being said through the headphones (well, that is, provided you can repeat what you hear through the headphones).

The scope of the phrasebook is limited enough that you cannot use this as a dictio-

Copyright © 1993 by Mitsu Hadeishi. All rights reserved.

nary. For example, for "book" the only translation phrase was "guide book," which in French is "un guide." In actuality, "book" is "livre" in French, but you'd never be able to find that out from this phrasebook. So, though this is a cute little CD-ROM, it is hardly comprehensive enough to be more than a curiosity while traveling. I suspect a good old paper phrasebook would be a lot more handy than this disc for this particular application. Of course, a paper phrasebook does not include audio translations of the phrases: that is a particularly useful addition in this "multimedia" version of the translator CD-ROM.

STUMP THE ENCYCLOPEDIA

The next electronic book I tried was *The New Grolier Electronic Encyclopedia.* This title was quite a bit of fun to play with. Though the encyclopedia claims to contain pictures and sound as well as text, in fact the vast majority of entries contain only text. This is understandable, as pictures and sound take up a huge amount of space compared to text. We didn't once stumble upon an entry with a picture or sound attached to it until we tried specifically to find one by looking up the keyword "sound."

Despite this, the encyclopedia seems pretty comprehensive. I had the Data Discman plugged into the TV and my wife and a friend of ours played "stump the encyclopedia." The encyclopedia contains very brief entries on most subjects, but they are usually informative. We were able to look up relatively esoteric things like some scientific terms (my friend has a degree in biology, and so we looked up a few he thought might be interesting—it had entries for some of them). We looked up the names of some obscure classical composers (my wife was a music major in college), and a variety of other mathematical and technical terms. Cultures other than European and American got short shrift, we noticed, but an encyclopedia can only cover so much material.

There were several search methods available. You could search by menu, by title, by keyword, or by "end word." The most useful method seemed to be the keyword search, though this sometimes came up with so many entries that you often had to re-do the search to cut down the number of entries a bit. You could specify up to three keywords over which to do the search. The Discman would then find all articles that contained the words you selected, either in the title or anywhere in the article. The other searching methods were not as useful, particularly the menu search, which involves finding articles by traversing a hierarchical menu system.

One problem with the searching techniques was that there was no way to search *within* an entry after you had found it. That is, you might find that the keyword search found a particular article you were looking for, but there was no way to quickly scan the article to find they keyword's location in the article. Often this wasn't a problem (most articles are quite brief), but sometimes the articles were long, and in those cases it was sometimes difficult to find the referenced word.

Better Quality Doesn't Mean You Have To Pay More.

USA-486 EISA SCSI II System

- 4MB (70ns) RAM & 256K Cache
- 1.2MB Floppy Drive
- 1.44MB Floppy Drive
- 32-Bit VLB SCSI Ctrl. & I/O
- 213MB SCSI Hard Drive
- Medium Tower Case with 230W Power Supply
- 32-Bit Diamond Stealth 24 VESA Local Bus
- 14" CTX Super VGA Monitor .28dp Non-Interlaced
- 101 Key Enhanced Keyboard
- Mouse

486DX-33MHz	$1759
486DX-50MHz	$1897
486DX2-66MHz	$1966

USA-486 VLB System

- 4MB (70ns) RAM & 256K Cache
- 1.2MB Floppy Drive
- 1.44MB Floppy Drive
- 32-Bit VLB IDE with I/O (2S/1P/1G)
- 120MB IDE Hard Drive
- Mini Tower Case with 200W Power Supply
- 32-Bit Cirrus Logic VLB/1MB
- 14" CTX Super VGA Monitor .28dp
- 101 Key Enhanced Keyboard
- Mouse

486DX-33MHz	$1299
486DX-50MHz	$1439
486DX2-66MHz	$1549
Pentium ZIF Socket	$15

USA-486 EISA VLB System

- 4MB (70ns) RAM & 256K Cache
- 1.2MB Floppy Drive
- 1.44MB Floppy Drive
- 32-Bit VLB IDE with I/O (2S/1P/1G)
- 213MB IDE Hard Drive
- Mini Tower Case w/200W Power Supply
- 32-Bit Diamond Stealth 24 VLB with 1MB
- 14" CTX Super VGA Monitor .28dp
- 101 Key Enhanced Keyboard
- Mouse

486DX-33MHz	$1478
486DX-50MHz	$1617
486DX-66MHz	$1686

USA-486 Super VGA System

- 4MB (70ns) RAM & 256K Cache
- 1.2MB Floppy Drive
- 1.44MB Floppy Drive
- IDE with I/O (2S/1P/1G)
- 120MB IDE Hard Drive
- Mini Tower Case with 200W Power Supply
- 16 Bit Super VGA Card with 256K
- 14" CTX Super VGA Monitor .28dp
- 101 Key Enhanced Keyboard
- Mouse

486DX-33MHz	$1199
486DX-50MHz	$1359
486DX2-66MHz	$1428

CHAPLET COLOR NOTEBOOK

- 4MB RAM & 1.44MB Floppy
- 80MB Hard Drive

NBD486T-25MHz	$2999
NBC386SLC-25MHz	$1629
NBA386SX-25MHz	$1319

Hard Drive & Controller Options

ST-351AX 40MB IDE Hard Drive	$125
Conner CP30084 80MB IDE (17ms)	$165
Conner CP30104 120MB IDE (17ms)	$187
Conner CP30174 170MB IDE (17ms)	$205
WD AC2200 212MB IDE (13ms)	$225
WD AC2450 250MB IDE (13ms)	$268
WD AC340A 340MB IDE (13ms)	$325
Maxtor MX-7131A 129MB IDE (15ms)	$195
Maxtor MX-7213A 213MB IDE (15ms)	$239
Maxtor MX-7245A 245MB IDE (15ms)	$255
Maxtor MX-7345A 340MB IDE (13ms)	$315
Maxtor LXT-340S 340MB SCSI (13ms)	$415
Adaptec 1542CK SCSI Ctrl w/ Novell S/W	$255
Adaptec 1742AK EISA SCSI Ctrl w/Novell S/W	$410
Promise VL Bus IDE Caching Ctrl with 0K	$185
UltraStor 34F VLB SCSI Controller	$325

Network Products Options

16 Bit Arcnet Lan Card Coax	$66
16 Bit Arcnet Lan Card Twisted	$77
Arcnet 8 Ports Active Hub Coax	$135
Arcnet 8 Port Active Hub Twisted	$170
Arcnet 4 Ports Passive Hub	$15
16 Bit Ethernet NE2000 Card Coax	$65
16 Bit Ethernet NE2000 Card 10-B-T	$65
LANTastic AI V5.0	$79
Novell NetWare V3.11 5-User	$565
Novell NetWare V3.11 10-User	$1195
Novell NetWare V3.11 20-User	$1525
Novell NetWare V4.0	CALL

Network Installation & On-Site Service are Available

AMERICAN EXPRESS MasterCard VISA UPS

AMREL 486 NOTEBOOK

- 4MB RAM (up to 16MB)
- 80MB Hard Drive

486SLC-25MHz	$1535
486DX-33MHz	$2039
486DX2-66MHz	$2389

Monitor & Video Options

16 Bit VGA Card w/ 256K	$26
16 Bit SVGA Card w/ 512K	$37
Trident 8900CL SVGA Card w/ 1MB	$55
Diamond Speedstar Pro VLB w/ 1MB SRAM	$135
Diamond Stealth 24 w/ S3 Chip 1MB DRAM	$169
Diamond Stealth Pro S3 w/ 1MB VRAM	$245
Orchid Fahrenheit VL Bus w/ 1MB DRAM	$175
Diamond Speedstar Pro VLB w/1MB DRAM	$145
Diamond Stealth24 VLB Bus w/ 1MB DRAM	$175
Diamond Stealth Pro VLB w/ 1MB VRAM	$269
Diamond Viper P9000 VL Bus w/ 2MB VRAM	$395
CTX 5468 14" SVGA Monitor .28dp	$252
CTX 5468 NI 14" SVGA Monitor .28dp	$275
CTX 1461 14" VESA SVGA Monitor .28dp	$305
CTX 1560 15" SVGA Monitor .28dp	$415
CTX 1760F 17" SVGA Monitor .28dpi	$775
NEC 3FGE 15" SVGA Monitor .28dp	$615
NEC 4FG 15" SVGA Monitor w/ Accucolor	$725
NEC 4FGE 15" SVGA Monitor	$719
NEC 5FGE 17" SVGA Monitor	$1109
MAG 15" 1280 x 1024 .28dp SVGA Monitor	$535
MAG 17" 1280 x 1024 .26dp SVGA Monitor	$975
ViewSonic 6E 14" SVGA Monitor .28dp NI	$315
ViewSonic 7 17" SVGA .28dp LR Monitor	$920
ViewSonic 8 20" SVGA .28dp LR Monitor	$1540

Printer & Tape Back-Up Options

HP DeskJet 500 InkJet Printer	$375
HP DeskJet 500C Color InkJet Printer	$475
HP DeskJet 550C Color InkJet Printer	$675
HP LaserJet 4L with Toner	$749
HP LaserJet 4 with Toner	$1325
HP LaserJet IIIP with Toner	$979
Panasonic KX-P2180 Printer	$185
Panasonic KX-P2123 Printer	$239
Panasonic KX-P2124 Printer	$318
Panasonic KX-P2624 Wide Car. Printer	$385
KX-P4410 Laser Printer/512K	$649
KX-P4430 Laser Printer/1MB	$895
Epson LQ-1070 Printer	$385
Epson FX-1050 Printer	$435
Colorado 120MB Tape Drive	$150
Colorado 250MB Tape Drive	$200

Motherboards

386DX-40/128K Cache w/ AMD CPU	$135
486SX-25 w/Intel CPU	$189
486DX-33/256K Cache w/Intel CPU	$415
486DX-33/256K VESA Local Bus w/CPU	$399
486DX-33/256K EISA VLB w/CPU	$575
50MHz CPU	Add $140
66MHz CPU	Add $220

(ZIF Socket Available)

Other Options

1MB Simm Module 70ns Upgrade	$35
4MB Simm Module 70ns Upgrade	$138
Medium Tower Case with 230W	$75
Full Tower Case with 250W	$96
96/24 Fax/Data Internal Modem	$55
14.4 Fax/Data Internal Modem	$185
Focus 9000 Keyboard	$64
Fujitsu 101 Keyboard	$44
Multimedia Upgrade Kit	$475
Mitsumi CD-ROM Drive 350ms	$195
Sound Blaster 16ASP	$215

Call for More Items!

All Systems Come with One Year Parts and Labor Warranty.

USA System Avenue
148 8th Ave., #H, City of Industry, CA 91746
(818) 961-2469 • Fax: (818) 961-4420
Office Hours: 9:00 am - 7:00 pm • Saturday by Appointment
Prices Subject to Change Without Notice.

SUPER SALE NOTEBOOKS SUPER SALE PC SYSTEMS

MODEL NUMBER	80MB HD	120MB HD	180MB HD	200MB HD	240MB HD
NP433 (486SLC-33) Mono 4MB	$ 1,425.00	$ 1,475.00	N/A	N/A	N/A
NP740 (486SX-25) Mono 4MB	$ 1,635.00	$ 1,695.00	$ 1,825.00	N/A	N/A
NP741 (486SX-33) Mono 4MB	$ 1,735.00	$ 1,795.00	$ 1,920.00	N/A	N/A
NP743 (486DX-33) Mono 4MB	$ 1,865.00	$ 1,925.00	$ 2,050.00	N/A	N/A
NP746 (486DX2-66) Mono 4MB	$ 2,125.00	$ 2,180.00	$ 2,305.00	N/A	N/A
NP740S (486SX-25) Passive 4MB	$ 2,235.00	$ 2,295.00	$ 2,420.00	N/A	N/A
NP741S (486SX-33) Passive 4MB	$ 2,335.00	$ 2,395.00	$ 2,520.00	N/A	N/A
NP743S (486DX-33) Passive 4MB	$ 2,465.00	$ 2,525.00	$ 2,650.00	N/A	N/A
NP746S (486DX2-66) Passive 4MB	$ 2,725.00	$ 2,780.00	$ 2,905.00	N/A	N/A
NP740T (486SX-25) Active 4MB	$ 3,230.00	$ 3,290.00	$ 3,415.00	N/A	N/A
NP741T (486SX-33) Active 4MB	$ 3,330.00	$ 3,390.00	$ 3,515.00	N/A	N/A
NP743T (486DX-33) Active 4MB	$ 3,460.00	$ 3,520.00	$ 3,645.00	N/A	N/A
NP746T (486DX2-66) Active 4MB	$ 3,720.00	$ 3,775.00	$ 3,900.00	N/A	N/A
NP840 (486SX-25) Mono 4MB VL BUS	N/A	$ 1,795.00	N/A	N/A	$ 2,025.00
NP843 (486DX-33) Mono 4MB VL BUS	N/A	$ 2,025.00	N/A	N/A	$ 2,255.00
NP846 (486DX2-66) Mono 4MB VL BUS	N/A	$ 2,280.00	N/A	N/A	$ 2,510.00
NP840S (486SX-25) Passive 4MB VL BUS	N/A	$ 2,395.00	N/A	N/A	$ 2,625.00
NP843S (486DX-33) Passive 4MB VL BUS	N/A	$ 2,625.00	N/A	N/A	$ 2,855.00
NP846S (486DX2-66) Passive 4MB VL BUS	N/A	$ 2,880.00	N/A	N/A	$ 3,110.00
NP840T (486SX-25) TFT 4MB VL BUS	N/A	$ 3,395.00	N/A	N/A	$ 3,625.00
NP843T (486DX-33) TFT 4MB VL BUS	N/A	$ 3,625.00	N/A	N/A	$ 3,855.00
NP846T (486DX2-66) TFT 4MB VL BUS	N/A	$ 3,880.00	N/A	N/A	$ 4,110.00
NP933 (386DXL-33) Mono 4MB	$ 1,235.00	$ 1,360.00	N/A	$ 1,510.00	N/A
NP942 (486SLC-25) Mono 4MB	$ 1,285.00	$ 1,385.00	N/A	$ 1,560.00	N/A
NP943 (486DX-33) Mono 4MB	$ 1,585.00	$ 1,685.00	N/A	$ 1,840.00	N/A
NP943C (486DX-33) Color 4MB	$ 2,180.00	$ 2,280.00	N/A	$ 2,440.00	N/A
NP946 (486DX2-66) Mono 4MB	$ 1,850.00	$ 1,950.00	N/A	$ 2,110.00	N/A

VESA Local Bus 486's

486DX-33 MHz	**$1268**
486DX2-66 MHz	**$1528**

- * Local Bus Motherboard
- * INTEL 80486DX Processor
- * 4MB System RAM
- * 1.2 & 1.44 MB Floppy Drive
- * IDE 2HD/2FD Controller
- * 120MB IDE Hard Drive
- * AT I/O (2S/1P/1G)
- * 14" SVGA Monitor .28dpi
- * Local Bus 1MB SVGA Card
- * 101 Enhanced Keyboard
- *Mini Tower Case

EISA 486PC's

486DX-33 MHz	**$1178**
486DX2-50 MHz	**$1298**
486DX-50 MHz	**$1328**
486DX2-66 MHz	**$1398**

- * INTEL 80486DX Processor
- * 4MB System RAM
- * 1.2 & 1.44 MB Floppy Drive
- * IDE 2HD/2FD Controller
- * 120MB IDE Hard Drive
- * AT I/O (2S/1P/1G)
- * 14" SVGA Monitor .28dpi
- * Super VGA Card w/1MB
- *101 Enhanced Keyboard
- * Mini Tower Case

ISA 386 PC'S

3386SX-33 MHz	**$718**
386DX-40 MHz	**$778**

- *2MB System RAM
- *1.2 & 1.44 MB Floppy Drive
- *IDE 2HD/2FD Controller
- *40MB IDE Hard Drive
- *AT I/O (2S/1P/1G)
- *14" SVGA Monitor .39dpi
- *16-bit SVGA Card
- *101 Enhanced Keyboard
- *Mini Tower Case

- •One year parts ,2 year labor warranty.
- •Lifetime technical support.
- •72 hours burn-in test.
- •We customize to your requirement.
- •All listed prices reflect a CASH discount only.
- •Prices subject to change without notice.

★★★WE DO UPGRADE & REPAIR AT THE LOWEST PRICE. ★★★

MOTHERBOARDS	
486DX VL-Bus x 2, 256K	$115
3/486DX/DX2,ISA,256K	$95
386DX/40 W/128K,CPU	$133
386SX/33, W/CPU	$83

DISPLAY CARDS	
VLB VGA (5426) w/1MB	$92
VLB VGA, (Oak) w/1MB	$80
Trident 8900-CL W/1MB	$53
Trident 9000 W/512K	$38
VGA-256K (800x600,16-bit)	$28

ADD-ON CARDS	
Vesa Local Bus IDE W I/O	$42
Super IDE W I/O	$14

HARD DRIVES & FLOPPY DRIVES	
40MB (IDE)	$120
80MB (IDE)	$165
120MB (IDE)	$170
170MB (IDE)	$205
200MB (IDE)	$245
250MB (IDE)	$285
340MB (IDE)	$345
550MB (IDE)	CALL
1.2MB FDD (5.25")	$48
1.44MB FDD (3.5")	$43

KEYBOARDS	
101 Enhanced Keyboard	$20
Lite-On 101-Key (Soft-Click)	$30
Focus 2001 101-Key (w/Cover)	$40

MONITORS	
Digiview 14" SVGA (.39)	$205
Digiview 14" SVGA (.28)	$245
CTX 14" SVGA (.28)	$255
CTX 15" SVGA (.28), NI	$440
Viewsonic 6E	$334
Viewsonic 6FS (15")	$545
MAG 15F (15", 1280x1024, .28)	$558
MAG 17F (17", 1280x1024, .26)	$1038

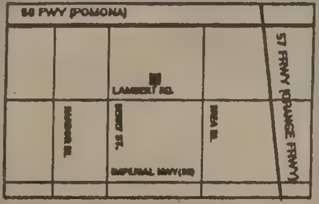
MISCELLANEOUS	
2400 Modem	$29
96/2400 Fax Modem	$55
14,400 Fax Modem	$170
3-button Mouse	$10
Backup Tape 120MB	$160
Backup Tape 250MB	$210
SONY CD-ROM 031A	$220
Sound Blaster 2.0 Comp.	$60
Sound Commander Ex	$70
Sound Commander Pro	$120
Multimedia Upgrade Kit	$450
MS DOS 6.0	$45
Windows 3.1	$50
Memory Upgrade (1MB)	$35

Prostar Microsystems, Inc.

555 W. Lambert Road, Suite G, Brea, CA 92621
Hours: Monday-Friday 8:30A.M.- 6:00P.M., Saturday 10A.M.- 4:00P.M.

VISA MasterCard

For Details, Call **(714)257-1138**
or Fax Order (714)257-1137

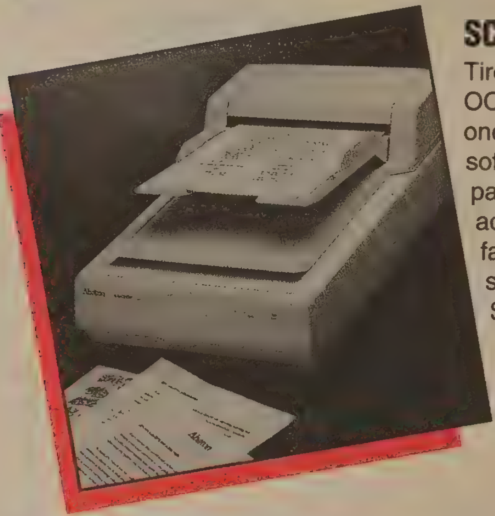


INCREDIBLE SELECTION

DISK DRIVE SALE

GREAT PRICES

PROFESSIONAL SERVICE



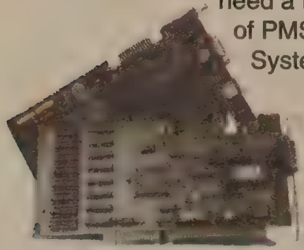
SCSI OCR Scanners

Tired of typing? Corporate Systems Center makes OCR technology affordable! Abaton uses modern one bit technology coupled with Omnipage software to create the ideal document scanning package for Macintosh applications. Take advantage of our insane price on a brand new, factory sealed Abaton SCSI scanner and OCR software bundle: List Price: $995. CSC Price: $295! Buy now and we'll throw in a free automatic document feeder while supplies last! Call or fax our sales staff today for this incredible product.

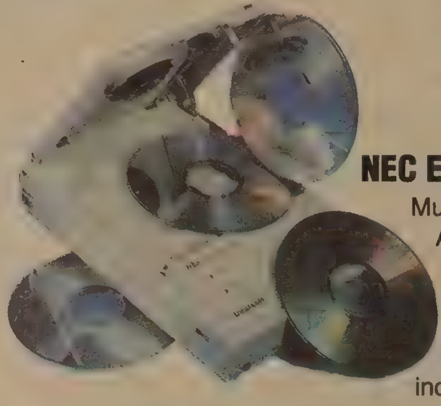
Maxtor LXT-340A IDE Drives!

Maxtor quality has never been more affordable! The Maxtor LXT-340 packs over 340 megs of formatted capacity into a 3.5" package. The rugged LXT series design offers superior reliability and a snappy 15ms access time. Count on CSC for dirt cheap pricing - a limited quantity of like new factory refurbished drives are available at $295!

True Color Video Boards!



For serious prepress and photo manipulation work, you need a true color video board capable of PMS color matching. Corporate Systems Center carries a complete line of brand new graphics engines that offer up to 16.8 million colors! The best news is the price! Call or fax for information on our complete line of video products! We have hundreds of VRAM, super VGA, and true color boards in stock. With prices starting at $39, you won't believe your eyes!



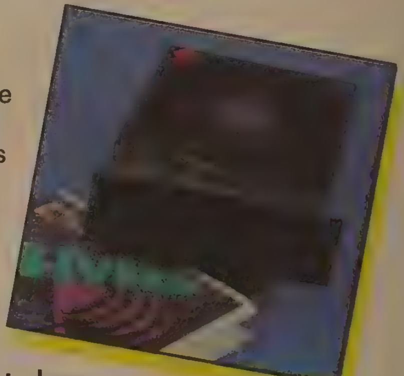
NEC External SCSI CD-ROM drives!

Multimedia is here - what are you waiting for! A special purchase lets us offer a limited quantity of factory refurbished NEC CDR-25 portable SCSI CD-ROM kits. Fully multimedia MPC compliant with 64K cache memory. Everything you need is included for the unheard of price of $159!

Fujitsu M2623T IDE Drives

These brand new 3.5" Fujitsu drives format to 420 megabytes and offer a sizzling 12ms access time. Shouldn't you get a great deal on a factory fresh IDE drive from CSC? $479! Quantity discounts available for purchases of two or more units.

Syquest SQ-555 Drives



Call or fax CSC for the best deal on a refurbished 44 megabyte Syquest removable cartridge hard drive! At $149, you won't be able to resist the temptation. Our specialists will advise you for simple Macintosh or PC installation. Order an internal drive or let us build a custom external unit in the enclosure of your choice.

All drives (both new and refurbished) are backed by Corporate Systems Center's fast turnaround warranty. Quantities limited on most items, and prices are subject to change without notice. Trademarks listed are property of their respective owners.

Cheapernet Cards!

PC Networking costs too much! Most companies offer ethernet cards at $60 or more! A large wholesale purchase lets us sell these Novell compatible ethernet cards at unheard of prices. Order a four pack (yes, we mean four brand new boards) for only $99 at Corporate Systems Center. No CRV required.

Corporate Systems Center
1294 Hammerwood Ave.
Sunnyvale, CA 94089
Tel. (408) 734-DISK
Fax (408) 734-1819

COLUMBIA PICTURES PRESENTS

Finally, the unit came with the audiobook *Sliver*, by Ira Levin. This was pretty straightforward: someone reading the book aloud while text of the book is displayed on the screen at the same time, for some reason (perhaps this might be a way to help some people learn how to read). This is an example of Sony's cross-marketing strategy; they own Columbia Pictures.

The idea that Sony had in purchasing Columbia was to be able to link their "software" and their "hardware" businesses; Columbia Pictures could provide the visual "software" in the form of movies and other material, which could be played on Sony's current and new "hardware." This is one of the first examples of this strategy at work.

Unfortunately for Sony, *Sliver* didn't do as well as expected at the box office. I doubt this particular offering will drive very many sales of the Data Discman. However, it does demonstrate the fact that these little units can take advantage of compression to play full-length audiobooks. Since an audiobook can be much lower sound quality than a regular audio CD, you can record a much larger amount of sound, even on a 3.5" CD-ROM, than on a regular audio CD, so the Sony "electronic book player" is capable of being an audiobook player as well. Of course, to make this a viable application, there has to be a large number of audiobooks produced for the drive. If a large number of audiobooks were available, that might give people another reason to purchase the Discman.

One could say this is the "multimedia" version of the Data Discman, although the graphics capability is quite limited (no animation, very slow drawing of graphics).

Of course, an audiobook is only as good as the person doing the reading, and one minor problem with this particular example of a CD-ROM audiobook is that the reader has a very flat, monotonic voice, which doesn't work well, at least for me, when I'm trying to listen to a suspense novel. Kind of deflates the experience. I think Sony should have hired a starving actor or someone with a little bit of vocal expression to read this particular novel.

Another minor annoyance: the "stop" button is on the front of the unit very near the cursor controls. As a result, it's easy to accidentally hit the stop button, which essentially suddenly powers the drive down. This occurred more than once while we were using the encyclopedia—which led us to discover one useful feature of having the text displayed along with the voice: you can find your place more easily when you start it up again.

MISC.

Finally, the Data Discman does play 3.5" CD audio singles. I'm not quite sure what the value of this is; I don't know too many people who have a large collection of 3.5" CD singles, but I suppose it's nice to know the machine can do it.

Overall, this is an intriguing technology with a lot of promise. To realize this promise, of course, will require a large number of titles. The encyclopedia illustrates that reference material can be quite effective in these small machines. Of course, one has to ask whether a regular CD-ROM drive installed in a computer would not be a better use of your hard-earned $500. In the latter case, you can use it to play multimedia games, access larger encyclopedias, and so forth.

The primary advantage of the Data Discman is its portability. The success of this technology, therefore, will be dependent on the portable applications for the unit. Travel and restaurant guides, more versatile and complete translation dictionaries and the like, I think, will be required for this technology to take off. Perhaps a large library of audiobooks wouldn't hurt, either. There is already a fair number of titles available even now.

NEWS TIDBIT

The portable multimedia CD-ROM unit I reviewed a few months ago (the Sony PIX-100) plays MMCD format discs (also known as CD-ROM XA). The Multimedia Publishers Group has announced that Compact Publishing is producing *CNN Newsroom Global View World Affairs Atlas* and the *Time Almanac* for Windows/MPC, Mac, VIS, and the Sony MMCD format. ■

WORLDNET
COMPUTERS

COMPLETE
SYSTEMS

800 • 967 • 5368

WE'LL BEAT ANY ADVERTISED PRICE!

386SX-33MHz
- 1.2MB & 1.44MB Floppy Drives
- 2MB of Memory
- 105MB Hard Drive
- Super VGA Card
- 14" Super VGA Monitor
- Mini Tower Case w/200W P/S
- 2 Serial/1 Parallel/1 Game
- Enhanced 101 Keyboard

ONLY $650

386DX-40MHz
- 1.2MB & 1.44MB Floppy Drives
- 4MB of Memory
- 130MB Hard Drive
- Super VGA Card w/1MB RAM
- 14" Super VGA Monitor
- Mini Tower Case w/200W P/S
- 2 Serial/1 Parallel/1 Game
- Enhanced 101 Keyboard

ONLY $875

INTEL 486DX
- 1.2MB & 1.44MB Floppy Drives
- 4MB of Memory
- 213MB Hard Drive
- Super VGA Card w/1MB RAM
- 14" Super VGA Monitor
- Mini Tower Case w/200W P/S
- 2 Serial/1 Parallel/1 Game
- Enhanced 101 Keyboard

486DX-33MHz $1199
486DX-50MHz $1345
486DX-66MHz $1410

486DX VESA LOCAL BUS
- VESA Local Bus Video Card
- VESA Local Bus Controller

SPECIFICATIONS SAME AS ABOVE
486-33MHz $1250
486-50MHz $1399
486-66MHz $1450

PRINTERS
Okidata OL400 .... $520
HP 550C $665
HP 500C $475
HP 500 .... $350
HP 4 .... $1299

MULTI-MEDIA
SONY CD-ROM
16 Bit Sound Board
- 5 Titles
$465

TEXEL
Audio Pro-16
- 5 Titles
$550

SCANNERS
ARTISCAN
600DPI w/Color, PhotoStyler, OCR .. $995
800DPI w/Photo Styler, OCR $1095
1200DPI w/Photo Styler, OCR $1795

800 • 967 • 5368

CALIFORNIA COMPUTER SYSTEMS

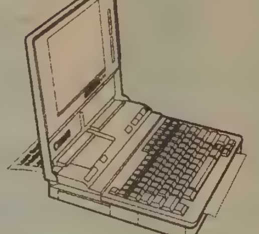
World-Class Portable Power From CCS !!

LABOR AND PARTS WARRANTY
1 YEAR
CCS

Canon Notejet 486

Bubble Jet Printer Built-In Two-In-One!

- 486SXL-25 MHz
- 4MB Up to 12MB
- 1.44MB Floppy Drive
- 190MB Hard Disk
- Bubble Jet Printer Built-In
- Automatic Sheet Feeder Built-In
- 10" LCD VGA Screen
- Canon 2-Button Hand Held Trackball
- MS DOS, WINDOWS 3.1
- 4 Hour Battery
- 7.7 Lbs. w/Bubble Jet Printer Inside



$2975

$ 99.00 Per Month

Canon INNOVA 386NX Notebook

Pre-installed Software
MS-Works for Windows
MS-Windows V3.1
MS-DOS V5.0
Win-Fax

- 386SXL-25 MHz CPU 4 MB RAM
- 80MB HD (120/200MB optional)
- 3.5" 1.44MB Floppy Drive
- 10" Mono LCD VGA 640 x 480, 64 grays Simultaneous Dispaly (800x600 16 Color)
- Super Longlife Battery 4-6 Hours
- Fax/Modem (9600/4800, Send/Receive)
- 1 Serial, 1 Parellel, VGA and keyboard Port
- 82/83-Key Keyboard
- Logitech Trackman Mouse
- Weight 5.3 lbs with Battery
- 11.4" W x 8.7" D x 1.5" H

$1375

$ 52.00 Per Month

NP-700 Active-Matrix Color

Removable Hard Drive

PCMCIA

- 4MB RAM, Expandable to 16MB
- Removeable 120MB Hard Drive (80, 200MB Optional)
- 3.5" 1.44MB, Floppy Disk Drive
- 10" Mono LCD VGA 640x480 64 Gray
- 10" Passive Natrix Color LCD VGA 640 x 480, 16 Color
- 10" Active Matrix Color LCD VGA 640 x 480, 256 Color
- Simultaneous CRT & LCD Operation
- Lager Built-in 16mm Trackball.
- PCMCIA Type I & II Slot
- Ports for 1S, 1P, Ext.keyboard/keypad, VGA monitor & AT/Bus for expansion box
- 83-Key Keyboard
- Nickel Metal-Hadride battery
- Microsoft DOS 6.0
- Carrying Bag & AC/Adapter
- Weight 5.5lbs. with Battery
- 11.4"W x 8.6"D x 1.65"H

	MONO	COLOR PADDIVE MATRIX	COLOR PADDIVE MATRIX
NP-740 486SX-25	$1825	$2375	$3345
NP-741 486SX-33	$1895	$2445	$3415
NP-743 486DX-33	$1995	$2545	$3515
NP-746 486DX2-66	$2275	$2825	$3795

FEATURES

- Module Pack Area: Trackball, Fax/Modem, SCSI PS/2 Mouse+CCOM 2
- PCMCIA Slot
- Intel 486 Upgradeable CPU (486SX>486DX-33>486DX2-66)
- Easy to Upgrade Memory (RAM) No need to Open Notebook
- 180° LCD Display Angle Rotation
- 2-Hour Quick Charge
- Expansion Box: 2 16-Bit Long Card,1 3.5" HDD Bay
- Nickel battery: No memory effect, Longer Battery Life
- Extemal Battery Pack: Doubles Running Hours Screws Into Bottom Back of Notebook Raising & Angling Keyboard for Easy Typing

NP-206C 486DX-33 MHz COLOR

NP-206M, 486DX-33, 4/170MB $1795
NP-209M, 486DX2-50, 4/170MB $2095

- 4MB RAM ,EXP. to 16MB, 8K Cache Memory
- 170MB HD (80, 200 or 240MB optional)
- 3.5" 1.44MB Floppy Drive
- 10" Color/8.5 Mono LCD Passive 640 x 480
- Ext. Numeric Key Pad Included
- Rechangeable Ni-Cad Battery
- 81-Key Keyboard
- Build-in Trackball Mouse (Color Only)
- 2 Serial and 1 Parallel, External Ports for VGA, 101-Keyboard, AT Bus port for Docking Station
- Numeric Keypad, 11"W x 8.6"D x 2"H
- Carrying Bag & AC/DC Adapter

$ 91.00 Per Month

$2495

Canon Plain Paper Portable inkjet Printer

Bubble Jet BJ-10EX

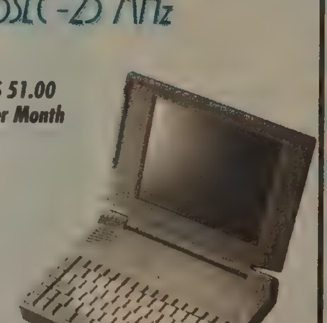
- Manual Feed
- 142 Characters/ Second
- 360 DPI > 6.6 lbs.
- 37 KB Buffer
- Epson/IBM Emulation
- Laser Quality Text & Graphics

$235 w/Notebook Purchase Only

NP-204 486SLC-25 MHz

- 4MB Standard Expandable to 8MB
- 80MB HD (120, 200MB optional)
- 3.5" 1.44MB Floppy Drive
- 640 x 480 LCD VGA Monitor
- Rechangeable Ni-Cad Battery
- 86-Key with 12 Function Keys
- 1Serial and 1 Parallel Port, 1PS/2 Mouse Part
- Option for INT. Fax/Modem
- 11"W x 8.4"D x 1.8"H
- Carrying Bag & A/C Adapter

$ 51.00 Per Month



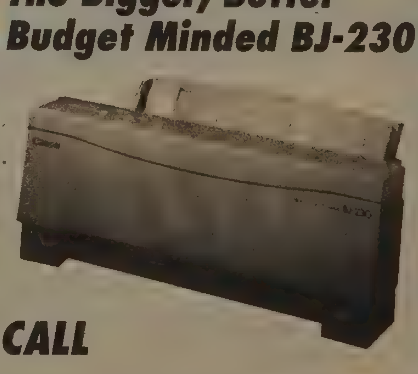
$1395

Canon The Bigger, Better Budget Minded BJ-230

Bubble Jet 230 Desktop Printer

- Perfect For Small Busines Needs
- Handles A Variety Of Paper Sizes Up To 11" x 17"
- Laser Performance
- Fast Letter-Wide Printing
- 2-Year Limited Warranty

$ CALL



Ask About Our 90 Day Same as Cash Financing Program

CALIFORNIA COMPUTER SYSTEMS

Innovation for Better Value...

LABOR AND PARTS WARRANTY
1 YEAR
CCS

VESA LOCAL BUS 486DX-66MHz

W/2 VESA LOCAL BUS SLOTS

- 486 66MHz Processor w/math-co
- 256K cache
- 4MB RAM up to 32 MB on board
- TEAC 1.2MB & 1.44MB Floppy Drives
- 170MB Hard disk
- VESA 32 Bit IDE Card w/2 Serial, 1 Parallel, 1 Game
- VESA 32 Bit Local Bus SVGA card w/1MB
- 14" 1024x768 .28 dot color Monitor
- 101 key Enhanced Keyboard

$ 1685 *$58.00 Per Month*

486DX-50MHz /DX2-66MHz

- 486 50MHz Processor w/math-co
- 256K cache
- 4MB RAM up to 32 MB on board
- TEAC 1.2MB & 1.44MB Floppy Drives
- 170MB Hard disk
- IDE Card w/2 Serial, 1 Parallel, 1 Game
- SVGA card 16 bit w/1MB
- 14" 1024x768 .28 dot color Monitor
- 101 key Enhanced Keyboard

$ 1445/1595 *$55/57.00 Per Month*

486DX-33MHz

- 486DX-33 MHz Processor
- 256K cache
- 4MB RAM up to 32 MB on board
- TEAC 1.2MB & 1.44MB Floppy Drive
- 125MB Hard disk
- IDE Card w/2 Serial, 1 Parallel, 1 Game
- SVGA card 16 bit w/1MB
- 14" 1024x768 .28 dot color Monitor
- 101 key Enhanced Keyboard

$ 1245 *$49.00 Per Month*

$50 Rebate
LIMITED TIME OFFER

Canon BJ-200

Laser Quality Bubble Jet Price

- 4 Page Per Min., 360 DPI Resolution
- 100 Sheets or 10 Envelopes
- EPSON & IBM Emulation
- 49KB Buffer, Weight 6.6 lbs.
- 2 Year Factory Warranty

$ 285 *After Rebate*

486SX-33MHz

- 486SX 25MHz Processor
- 256K cache
- 4MB RAM up to 32 MB on board
- TEAC 1.2MB & 1.44MB Floppy Drive
- 125MB Hard disk
- IDE Card w/2 Serial, 1 Parallel, 1 Game
- SVGA card 16 bit w/1MB
- 14" 1024x768 .28 dot color Monitor
- 101 key Enhanced Keyboard

$ 1090 *$40.00 Per Month*

386DX-40MHz

- 386DX 40MHz Processor
- 128K cache
- 4MB RAM up to 32 MB on board
- TEAC 1.2MB & 1.44MB Floppy Drive
- 125MB Hard disk
- IDE Card w/2 Serial, 1 Parallel, 1 Game
- SVGA card 16 bit w/1MB
- 14" 1024x768 .28 dot color Monitor
- 101 key Enhanced Keyboard

$ 945 *$38.00 Per Month*

MULTI-MEDIA SIDE

■ Panasonic CR-521,CD-ROM, 390ms Int. 64K Cache, 150KB/SEC Tranfer, Only	$ 255.00

MULTI-MEDIA UPGRADE KIT

■ Panasonic CR-521,CD-ROM, SoundBlaster Pro Deluxe, Microsoft Window 3.1 Microsolf Bookshelf, Mixed-up mother goose Encyclopedia, HSC interactive, King Quest V,	$ 475.00
■ SoundBlaster Pro Deluxe Edition	$ 145.00
■ SoundBlaster Pro 16	$ 245.00

Hilite (OEM by Texel)

■ HICTX 3000 Texel DM3024, SCSI-II,256ms, Photo CD/Double speed	$ 415.00
■ HICTX 3000S Texel DM3024M, Lab Tec speakers, Mavis beacon Midea Vision Spectrum 16, MPC Window Animal Encyclopia Chessmaster300, World and USA Atlas,	$ 579.00

MISC

Teac 1.2MB + 1.44MB 2 in 1	$ 129.00
Teac 1.2MB Floppy Drive	$ 58.00
Teac 1.4MB Floppy Drive	$ 52.00
14.4 Fax/Modem V.42, V.42BIS,V.32, V.32BIS Int.	$ 150.00
14.4 Fax/Modem V.42, V.42BIS, V.32, V.32BIS Ext.	$ 199.00
96/24 Fax/Modem Int W/Super Fax	$ 49.00

MONITORS

Optiquest 14" SVGA 1500D VESA NI 72Hz	$ 365.00
Optiquest 15" SVGA 2000DX LR, FS, VESA NI 72Hz	$ 465.00
Optiquest 17" SVGA 4000DX LR, FS, VESA NI 72Hz	$ 850.00
Tatung 14" SVGA CM-14SBE, .28 Low Radiation	$ 295.00
Tatung 14" SVGA CM-1400 .26 Trinitron	$ 355.00
Tatung 14" SVGA CM-14SBS, .28	$ 289.00
Totung 14 SVGA CM-14SAM, .39mm	$ 235.00
Tatung 14" SVGA CM-14 UAE, .28NI, Low Radiation	$ 335.00
NANAO 14"SVGA 9065S, NI	$ 375.00
NANAO 15" SVGA F340iw, LR, FS, NI	$ 799.00
NANAO 17" SVGA F550iw , LR, FS, NI	$1195.00
NANAO 17" SVGA T560i, Trinitron, NI	$1859.00
NANAO 20" SVGA T660i, Trinitron, NI	$2495.00
NANAO 21" SVGA F750i, LR, FS, NI	$2150.00

KEYBOARDS

Honeywell 101 Win (3yr. Warranty)	$ 40.00
Keytronic EST-5000	$ 33.00
Color-Key 101KB keyboad	$ 30.00
Focus-2001 101Keys w/Hard dust cover	$ 42.00
Focus-5001 130Keys Keyboard	$ 56.00
(Dble function Keys, Calculator etc.)	
Focus-9000 128Keys Keyboard Programable	$ 69.00

Canon
Authorized Dealer

NANAO
Authorized Dealer
Distributed by CADLAX MICRO

TATUNG
Authorized Dealer

OPTIQUEST
Authorized Dealer

CALIFORNIA
COMPUTER
SYSTEMS

950 E. Colorado Blvd. Suite #102,
Pasadena, CA 91106
Hours: Mon-Fri, 9:30-6:30PM ; Sat, 10AM-6PM

818-568-1122
Fax: 818-568-1515

VISA
MasterCard
Financing Available

All brand names are trademarks of their respective companies. Prices quoted base on 3% cash discount, Prices and specifications are subject to change without notice. Financing subject to credit approval.

Ask About Our 90 Day Same as Cash Financing Program

VESA Local Bus

486

intel inside

$999 NO BULL.

You heard it right and for a limited time you can get one of the fastest 486 systems made for under $1000. It comes fully configured with a SVGA color monitor, 4MB of RAM, 1.44MB floppy, 120MB hard disk and a two year total replacement warranty.

What's more, you get guaranteed on-site service, and technical support 24 hours a day, 7 days a week, with telephone responses in under ten minutes.

All of which shouldn't surprise you since we are known to more than 10,000 customers as JustTheFAX. Our service reps have the best reputation for prompt on-site service in Southern California. Customers like LA Cellular, Los Angeles Municipal Courts, Avery Dennison, Wells Fargo Bank, Kraft Foods, Sears and Stater Bros. to name just a few.

So call and order today. No need to shop the clubs or compromise on quality, service and performance. Now's the best time to purchase a 486 at the right price. And put the bull out to pasture.

JustTheFAX®

FAX, COMPUTERS, SERVICE & SOLUTIONS

(800) 422-4808

1340 Reynolds, Suite 105, Irvine CA 92714
Hours: Mon-Fri 9am-5pm, Sat 10am-3pm ▪ FREE DELIVERY

Canon's NoteJet 486

BY ED KAHN

REFERENCES:

Canon NoteJet, $2,499
Canon Computer Systems, Inc.
123 E. Paularino Ave.
Costa Mesa, CA
92628-5048
1-800-848-4123

Copyright © 1993 by Ed Kahn. All rights reserved.

From time to time, a really different notebook computer comes to market. Canon's NoteJet 486 is such a machine. Not only is this a well-designed 25MHz 486, but it is the only laptop that includes a built-in bubble jet printer. The NoteJet may bring to mind the old word processor machines that included a printer, but this looks nothing like those older units. In fact, this laptop looks pretty much like any other 7.7lb. portable—the top opens to expose the screen and keyboard. The basic system comes with 4MB of memory—expandable to 12MB—and uses standard off-the-shelf SIMM modules that you can buy anywhere and install yourself.

This is one of the best thought out machines I have seen. While it seems like only a minor step forward to include a printer, I see this as a significant leap ahead. The possibilities presented by this innovation are far greater than you might imagine at first glance. But before I get ahead of myself, let me describe how Canon has built a printer into the computer. The keyboard, which is less than a half inch thick, lifts up to reveal the sheet feeder that holds up to ten sheets of standard letter size paper, A4 paper or transparencies. It will not, however, print envelopes.

For the first time, the user is no longer dependent upon finding a compatible printer or lugging one along in order to print out a few reports or letters. As a friend suggested to me, this computer now offers the advantages of carrying along a typewriter because you can always print out what you entered into the machine. But beyond this, Canon has come close to creating the perfect paperless office machine. By adding one of the optional fax modems, you can receive faxes and print them on plain paper wherever you are. And, of course, you can fax off documents you have assembled. The next step, will be to add a scanner, giving full faxing and scanning capabilities in a portable. When Canon does this, they will have created the true portable office.

But before we enter into the stratosphere, let's examine the machine in more detail. There are three different capacity hard drives available. The least expensive configuration ($2,499) has an 85MB hard drive. Canon also offers configurations with 135MB ($2,799) and 180MB ($2,999) drives.

The display is a 9.5" VGA monochrome backlit screen that shows a clear and crisp image in sixteen scales of gray. It is adequate for Windows 3.1, which is included, but certainly not as convenient as a color display. A color monitor can be connected through the built-in video port on the back of the notebook.

The keyboard features a well-designed layout with separate keys for cursor movement as well as PgUp, PgDn, Home, and End. Although I find this keyboard quite acceptable, partly because of the slightly larger size of the overall computer—10" x 12.2" x 2.25"—some users might prefer to add the optional numeric keypad ($100) and avoid using the embedded numeric keypad. Canon has included a pointing device they developed as an alternative to a mouse. It looks like a pen with a ball and buttons. I am not wild about it, but perhaps I will grow to like if after using it longer. The advantage is that you can hold and operate it in one hand, without the need for a flat surface. You turn a ball with your thumb and click the buttons with you fingers. On an airplane, I am sure I would really appreciate this convenience. The device plugs into the PS/2 port on the back of the computer. If you use a numeric keypad, it plugs into this same port and the mouse then plugs into the keypad. The drawback to this arrangement is that you do not have the option of attaching a standard keyboard. As far as I am concerned, this is the only design feature on which I can fault Canon.

In addition to the other ports I have mentioned, there are both a serial and a parallel port on the back of the unit. There is also a bus connector for a docking station. The station is not currently available so I have neither price nor description. While it might seem that there should be additional serial port, there is the built-in mouse port and it is possible to use the parallel port for a variety of other devices. The parallel port will allow you, for instance, to use SCSI devices such as CD-ROMs, additional hard drives, and tape backup units. There are also two PCMCIA slots. This computer is ideally set up so you can do a variety of jobs without feeling hampered.

The PCMCIA slots will let you install both a network card and a fax modem at the same time. Canon offers two fax modem cards. The standard model ($399) is a 2400/9600 baud fax modem while the deluxe model ($899) transmits at 14,400/9600 baud. They both come with software.

The NoteJet has all of the features you would want in a 486 notebook. But the addition of the printer sets this unit apart

continued on page 102

Telecommuting Continues To Gain In Popularity

Activity In The World Of Telecommuting Continues To Heat Up

BY ROBERT MOSKOWITZ

LOS ANGELES CITY WORKERS MAY BEGIN TO TELECOMMUTE

A recent survey of Los Angeles city employees has reportedly found that nearly sixteen thousand of them could become telecommuters, nearly one-third of the hard-pressed city's work force. Putting this many people on a telework schedule would save a significant amount of travel, and make a major dent in the Southland's traffic and air pollution problems.

Although Los Angeles' decision-makers have only just received the report and have not yet come to grips with this challenge and opportunity, the information is due to be made public any time now, and should provide a treasure trove of factual material on which to base the debate that will surely ensure.

> **NOT YET MADE PUBLIC, THE TELECOMMUNICATIONS FOR CLEAN AIR REPORT IS SAID TO ESTIMATE THAT EACH YEAR GOVERNMENT WORKERS IN JUST LOS ANGELES, ORANGE, RIVERSIDE, AND SAN DIEGO COUNTIES SPEND ABOUT $1 BILLION OUT OF THEIR OWN POCKETS FOR "TRAVEL TO WORK" FROM HOME.**

CALTRANS/UC DAVIS "RESIDENTIAL CENTERS" LOOKING FOR SITES

Another project still making progress is the CalTrans/UC Davis effort to open as many as a dozen neighborhood telework centers. Unlike all existing centers, which are located in office-type settings where people arrive in cars or on busses or trains, this project is geared to utilize locations within half a mile of residential areas. The hope is that people can walk to work (in this case, to "telework") as they did forty or fifty years ago, and totally eliminate their job-related transportation requirements, except perhaps for a bicycle.

Site selection is already underway on this project, and apparently none of the sites will be in large cities. Most of the sites will reportedly fall within the corridor along I-80 from Vacaville to Grass Valley, and also within Orange and San Diego counties.

This project is particularly interesting because it reverses the more common pattern of first building a telework center and then hoping people will come use it. Instead, the CalTrans/UC Davis team will identify likely teleworkers in well-situated residential areas, get them motivated and get their employers to accept the notion of telework, do the necessary training, and only then open a center to serve what by then will have become a committed population. The team anticipates its effort to recruit teleworkers will be the most active of any telework center development project to date.

This approach sounds very expensive, but according to Jack Nilles, lead consultant on the project, experience with the productivity improvements that typically result from getting people to start telecommuting are so large that the cost of recruiting the workers and setting up the centers will be recovered in less than a year. "And from then on," he says, "these people will probably continue telecommuting for the rest of their working lives."

According to Nilles, a mid-level executive who begins telecommuting one day a week will normally increase his productivity five or ten percent over the year. That's like getting an extra $3,000 to $6,000 worth of results, and it's even more if you factor in the employers' normal employment overhead, fringe benefits, and the costs that can be saved by time-sharing the need for certain office space. The total savings goes even higher if you consider the personal (and societal) savings realized by having that executive not travel to work one day per week.

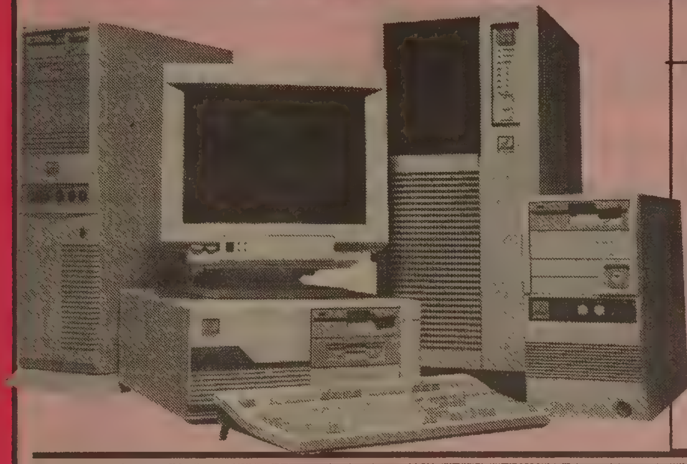
METROPOLITAN WATER DISTRICT EXPLORES TELECOMMUTING OPTION

The Los Angeles Metropolitan Water District has jumped into the pool with a telecommuting development program targeted for forty to sixty employees. One day a week some of these people are working at home, others are working at an MWD site that happens to be closer to their home than the office to which they normally commute.

Right now, San Dimas is the most popular satellite location for Los Angeles County MWD telecommuters. Although it's increasingly common for companies and government agencies to offer satellite facilities (that is, facilities wholly owned by the employer) to their telecommuters, fairly soon the project to do formal site-match-

Copyright © 1993 by Robert Moskowitz. All rights reserved. Robert Moskowitz is a business consultant based in Woodland Hills, CA, who writes frequently on productivity, office automation, and technology.

ATC 32-BIT BUS



ESTABLISHED SINCE 1984

NOW! IT'S EASY TO GO **32-BIT**

32-BIT BUS!

486DX
33MHz VL-B

INTEL 486DX 33MHz
4MB OF RAM
VL-BUS 32-BIT W/1MB 16.7 M. COLORS
VL-BUS 32-BIT IDE CONTROLLER
IDE 130 M.B. HARD DRIVE
1.44 & 1.2 TEAC FLOPPY DRIVE
101 ENHANCED KEYBOARD
HIGH RES LIFE-TIME WARRANTY (GENIUS) MOUSE
14" NON-INT CTX SVGA MONITOR
MINI TOWER CASE W/230 WATT
2-SERIAL 1-PARALLEL 1-GAME PORTS
TWO YEARS LABOR & ONE YEAR PART WARRANTY

$1299

30% Faster Graphics LOCAL BUS

486-DX/2
66MHz VL-B

intel inside

INTEL 486DX-2 66MHz
4MB OF RAM
VL-BUS 32-BIT W/1MB 16.7 M. COLORS
VL-BUS 32-BIT IDE CONTROLLER
IDE 130 M.B. HARD DRIVE
1.44 & 1.2 TEAC FLOPPY DRIVE
101 ENHANCED KEYBOARD
HIGH RES LIFE-TIME WARRANTY (GENIUS) MOUSE
14" NON-INT CTX SVGA MONITOR
MINI TOWER CASE W/230 WATT
2-SERIAL 1-PARALLEL 1-GAME PORTS
TWO YEARS LABOR & ONE YEAR PART WARRANTY

$1499

386 sx-33 SYSTEM
$799

386DX-40 SYSTEM
$859

SYSTEMS INCLUDE

128K CACHE MEMORY
4MB OF RAM
130MB IDE HARD DRIVE
TEAC 1.2 & 1.44 FLOPPY DRIVE
14" SVGA 1024x768 RES. MONITOR
SVGA TRIDENT CARD
IDE W/I.O. 2S/1P/1G PORTS
101 ENHANCED KEYBOARD (AST)
MINI TOWER CASE W/230 WATT
HI-RES GENIUS MOUSE
TWO YEAR LABOR ONE YEAR PART

486DLC-33 SYSTEM
$995

486DX-50 SYSTEM
$1299

HAPPY CUSTOMER LIST

- CITY OF LOS ANGELES
- DEPARTMENT OF WATER & POWER
- L.A. POLICE DEPARTMENT
- XEROX
- UCLA
- USC
- CAL TECH
- KCBS
- KTLA
- METRO
- RAMPAGE
- IMPROV

ATC COMPUTER
6767 SUNSET #23
L.A. CA 90028
PHONE # (213) 962-8610
FAX # (213) 962-7352

ing between different government agencies will begin. Since cities no longer require their employees to live within their boundaries, there is a tremendous potential to have employees of various California government entities telecommute to an office that happens to be closer to home—even though it belongs to a different government entity. Look for more up-to-the-minute word of this project's progress in one of the next articles in this series.

THE WHOLE WORLD IS WATCHING

In the past year or so, the whole world has begun watching the progress of American—and particularly Californian—telecommuting programs to see how they can replicate these successes in their own countries.

In Singapore, telecommuting has won much greater acceptance than many other locations because people there hate to take time for travel. The island is dotted with high-density apartment buildings, many of which have telecommuting centers built right into the "village center." This allows people to do their jobs at least some of the time without traveling to downtown Singapore, which can take an hour or more by bus or train. Singapore companies are also starting to export their jobs to Malaysia via telecommuting. They are finding, as others have found before them, that the electronic cost of "moving the work instead of the worker" is minimal compared with the value of the work actually being accomplished.

SUBSTITUTING TELECOMMUTING FOR TRAVEL JUST TO THESE INTER-GOVERNMENT MEETINGS COULD SAVE ABOUT $50 MILLION PER YEAR.

Separately, the French government in cooperation with France Telecom and its data transmission arm (DATAR) have committed the equivalent of nearly $7.5 million to set up various telecommuting programs in the southern part of that country. The main problem being addressed is that thousands of young people graduate from schools every year with computer skills and training, but can't find local jobs. Meanwhile, computer-oriented jobs go begging in the city centers. The result has been a steady migration of young people toward the already overcrowded metropolitan centers of France.

By installing telework centers in relatively rural and small-town areas and offering telecommuting possibilities to the young people already living there, the French government hopes to synergize the benefits of telework with rural economic development to restructure the way work is done

continued on page 70

- ▲ PC Networks from start to finish.
- ▲ Consulting, hardware & software, training and system administration & maintenance.
- ▲ Authorized Novell & LANtastic resellers.

NetAmerica
Computer Networks, Inc.

9430 Warner Ave. ▲ Suite M
Fountain Valley, CA
714▲962-1311

CMOS SOLUTIONS™ "WE MAKE ROM BIOS ADD UP"©

Your PC + Our New BIOS = Maximum Performance

FEATURES OF A NEW ROM BIOS
1.2, 1.44, 2.88 Floppy support • Unlimited IDE Support • MS DOS 6, OS2, Novell, DR DOS & MS Windows • All Compatible VGA, SVGA • Set Up in ROM, Anti-Virus & Password Option • Faster I/O Speed • Support VESA Local Bus • 4 Floppy Support, Selectable Boot Drive • and More...

Our new BIOS will give you over 100 different configurations!

Upgrade your PHOENIX, AWARD, A.M.I., OR MR BIOS to our NEW 1993 Revs. Free Chip Puller with BIOS kit.

SAVE UP TO 35% ON THESE SPECIALTY ITEMS
486 Super Cooler Heat Sink with Fan $29.95
Computer Tool Kit – 10 Pieces & Pouch $19.95
BIOS Technical Reference Manuals $29.95 - $55.00

VISA 1-800-CMOS-INC.

26560 Agoura Road • Suite 112 • Calabasas, California 91302 • FAX 818-880-8966 • PHONE 818-880-2136

BINOMIAL SYSTEMS, INC.

BINOMIAL SYSTEMS

957 Fairway Drive, Walnut, CA 91789
Tel: (909) 595-8293 • Fax: (909) 598-4609

Store Hours:
Mon-Fri: 9AM-6PM
Sat: by appointment

ARTISOFT LANtastic

SBT CORPORATION Accounting Software Packages
SBT Authorized Dealer

Novell Certified NetWare Engineer

- *Specialize in local & wide area networking*
- *On-site service & training are available*
- *Customer leasing plan is available*
- *System consultation & installation*
- *Customize software programming*
- *Provides custom cable installation*
- *2 in-house CNE to meet your networking needs*

NetWare Lite™

Network Cards

Arcnet	
Addtron 8-bit Arcnet (Combo)	55.00
Addtron 16-bit Arcnet (Combo)	75.00
Tiara 8-bit Arcnet	39.00
10 Base-T Ethernet	
3Com 16-bit Etherlink II TP	179.00
3Com 16-bit Etherlink III TP	145.00
Addtron 8-bit 10 Base-T	89.00
Addtron 16-bit 10 Base-T (Nov. Cert.)	95.00
Addtron 10 Base-T Pocket	179.00
Intel 16-bit 10 Base-T EtherExpress	119.00
Novell Eagle NE2000TP Plus	139.00
Pivotal 16-bit 10 Base-T Bus Master	139.00
SMC 16-bit 10 Base-T	139.00
Thin Ethernet	
3Com 16-bit Etherlink II	179.00
3Com 16-bit Etherlink III	145.00
Addtron 8-bit Ethernet	65.00
Addtron 16-bit Ethernet (Nov. Cert.)	84.00
Addtron 16-bit Ethernet (3-in-1)	99.00
Addtron 32-bit EISA Ethernet (3-in-1)	269.00
Addtron Pocket Ethernet	179.00
Artisoft 16-bit AE-2 Ethernet	209.00
Artisoft 16-bit AE-3 Ethernet	279.00
Intel 16-bit EtherExpress	119.00
Novell Eagle NE2000 Plus	139.00
SMC 16-bit Ethernet	139.00

Micro Channel

10 Base-T	
3Com Etherlink III MCA TP	259.00
Intel EtherExpress MCA TP	189.00
Novell Eagle NE/2T MCA 16	265.00
SMC EtherCard Plus Elite MCA TP	205.00
Thin Ethernet	
3Com Etherlink III MCA Coax	259.00
Intel EtherExpress MCA Coax	189.00
Novell Eagle NE/2C MCA 16	265.00
SMC EtherCard Plus Elite MCA Coax	205.00
Token Ring	
3Com TokenLink III TR MCA 16	539.00
Intel TokenExpress MCA 32	499.00
Novell Eagle NTR2000 TR MCA	335.00

Network Hubs

Arcnet	
Addtron 4 Port Arcnet Passive Hub	15.00
Addtron 8 Port Arcnet Active Hub	125.00
Addtron 8 Port Twisted Active Hub	135.00
Ethernet	
Pivotal 4 Port Internal Hub	249.00
Addtron 8 Port External Hub	299.00
Addtron 12 Port External Hub	479.00
Addtron 16 Port External Hub	499.00
Token Ring	
3Com LinkBuilder TokenRing	1899.00

Transceivers/Repeaters

Addtron 2 Port Ethernet Repeater	439.00
Addtron 4 Port Ethernet Repeater	695.00
Addtron Fiber Optic Transceiver	CALL
Addtron Thick to Thin Transceiver	59.00
Addtron Thick to 10 Base-T Tran.	59.00

Network O.S.

Artisoft	
Lantastic AI 5.0 for DOS	85.00
Lantastic AI 5.0 for Windows	95.00
Microsoft	
Workgroup for Windows 3.1	75.00
Novell	
NetWare Lite 1.1 w/DR DOS	65.00
NetWare 3.11 5 Users	599.00
NetWare 3.11 10 Users	1375.00
NetWare 3.11 20 Users	1950.00
NetWare 4.0 5 Users	935.00
NetWare 4.0 10 Users	2095.00
NetWare 4.0 25 Users	3095.00

Network Print Server

Eagle NPE400 Print Server	435.00
Intel NetPort II Print Server	538.00

Cables & Tools

Cable	
25 Feet RG58 Coaxial	12.00
25 Feet RG62 Coaxial	15.00
25 Feet 10 Base-T Twisted Pair	12.00
Connectors	
Barrel Connector	2.00
BNC Connector	1.75
BNC Terminator	2.00
T-Connector	2.00
Crimping Tools	
RJ-45 Crimping Tool	25.00
BNC Crimping Tool	25.00

Print Share Kit

Gemtek GT-100 Print Share Kit	99.00
Gemtek GT-400 Print Share Kit	169.00
Gemtek GT-100 Adapter	35.00
Gemtek GT-400 Adapter	59.00

UPS Systems

American Power Conversion	
Back UPS System 600	285.00
Back UPS System 900	399.00
Smart UPS System 600	439.00
Smart UPS System 900	599.00
PowerChute Plus Software	69.00
Tripp Lite	
Omni 600 UPS System Lan	399.00
Omni 900 UPS System Lan	558.00
BC-900 UPS System Lan	382.00
BC-600 UPS System Lan	268.00
Power/Alert Software	65.00

Tape & Floppy Drives

Tape Backup	
Colorado Jumbo 120 Tape Drive	175.00
Colorado Trakker 120 Tape External	319.00
Colorado Jumbo 250 Tape Drive	239.00
Colorado PowerTape 2G Internal	999.00
Archive Python 2G DAT Internal	1195.00
Floppy Drive	
Teac 1.2MB 5.25" Floppy Drive	57.00
Teac 1.44MB 3.5" Floppy Drive	53.00

Hard Drives

IDE Hard Drive	
Conner 40MB IDE Hard Drive	149.00
Conner 80MB IDE Hard Drive	189.00
Conner 120MB IDE Hard Drive	209.00
Conner 210MB IDE Hard Drive	289.00
Conner 340MB IDE Hard Drive	375.00
SCSI Hard Drive	
Maxtor 210MB SCSI Hard Drive	325.00
Maxtor 340MB SCSI Hard Drive	598.00
Maxtor 670MB SCSI Hard Drive	CALL
Maxtor 1.2G SCSI Hard Drive	CALL
Maxtor 1.7G SCSI Hard Drive	CALL

Motherboards w/CPU

EISA	
486DX2-66 Mhz w/256K Cache	935.00
486DX-50 Mhz w/256K Cache	875.00
486DX-33 Mhz w/256K Cache	667.00
VL-Bus	
486DX2-66 Mhz w/256K Cache	735.00
486DX-50 Mhz w/256K Cache	675.00
486DX-33 Mhz w/256K Cache	465.00
ISA	
486DX2-66 Mhz w/256K Cache	715.00
486DX-50 Mhz w/256K Cache	655.00
486DX-33 Mhz w/256K Cache	445.00
486SX-33 Mhz w/256K Cache	345.00
386DX-40 Mhz w/128K Cache	185.00
386SX-33 Mhz w/o Cache	115.00

Fax/Modem

Boca Research	
Internal Fax/Modem 14.4K	219.00
Intel	
Internal Satisfaxtion 300	315.00
Internal Satisfaxtion 400	425.00
US Robotics	
Sportster 14.4K Fax/Modem Int.	195.00
Courier HST Dual Standard w/ASL	769.00
Share Access Modem 14.4K Ext.	505.00
WorldPort 14.4K Modem Ext.	415.00

Video Cards

Diamond	
Speedstar 24X Super VGA Card	169.00
Stealth 24 VL-Bus Super VGA Card	179.00
Viper VL-Bus w/2MB RAM	438.00
Orchid	
Celsius VL-Bus Super VGA Card	245.00
Farenheit 1280 VL-Bus SVGA Card	215.00
ProDesigner IIS Super VGA Card	185.00
Trident	
Super VGA Card w/512K	45.00
Super VGA Card w/1MB	69.00

Controller Cards

Adaptec	
Adaptec 1522 (Adapter Only)	89.00
Adaptec 1542 (Adapter Only)	225.00
Adaptec 1522BK SCSI Host Adapter	139.00
Adaptec 1542C SCSI Host Adapter	269.00
Adaptec 1542C Plus w/Corel SCSI	329.00
Adaptec 1742A SCSI II Host Adapter	449.00

SPECIAL OF THE MONTH

3Com 8-bit Ethernet Card	59.00
Addtron 16-bit Ethernet (Nov. Cert.)	84.00
Addtron 16-bit Combo (3-in-1 Nov. Cert.)	99.00
Addtron 16-bit Combo Card (2-in-1)	84.00
Addtron 32-bit EISA Ethernet (3-in-1)	269.00
Addtron Pocket Ethernet	179.00
Intel EtherExpress 16	119.00
Addtron 16-port 10 Base-T Hub	499.00

486SX/25 NOTEBOOK

- 4MB Memory (Upgradable to 12MB)
- **120MB Hard Disk**
- 3.5" 1.44MB Floppy Drive
- 9.5" Mono LCD w/VGA 640x480
- Carrying Case w/Numeric Keypad

$$$ 1,599.00 $$$

CACHE CONTROLLER

VL-Bus IDE Cache	[illegible]	ISA IDE Cache	[illegible]
EISA SCSI Cache	[illegible]	EISA IDE Cache	[illegible]

" All controllers are upgradable to 16MB Memory "

DO IT YOURSELF

	1	2	3
8-bit Arcnet Combo Card	199.00	209.00	199.00
16-bit Arcnet Combo Card	269.00	279.00	269.00
8-bit Ethernet Card	279.00	289.00	279.00
16-bit Ethernet Card	299.00	309.00	299.00
8-bit 10 Base-T Card	299.00	309.00	299.00
16-bit 10 Base-T Card	319.00	329.00	319.00

• Peer To Peer Networking •

1. Novell NetWare Lite v1.1
2. Artisoft Lantastic AI v5.0
3. Microsoft Workgroup for Windows 3.1

Complete package for connecting 2 computers. Includes peer-to-peer network operating systems, 25 feet of coaxial cable and 2 network cards.

SERVER & DISKLESS WORKSTATION

486DX2-66 Mhz	$1765.00
486DX-50 Mhz	$1665.00
486DX-33 Mhz	$1485.00
486SX-33 Mhz	$1375.00

- Motherboard w/256K Cache
- 8MB Memory, 70ns
- Monochrome Card
- 14" Monochrome Monitor
- Super I/O Card (2S,1P,1G)
- 340MB IDE Hard Drive
- 1.2MB Teac Floppy Drive
- Full-Tower Case w/250 Watts P.S.
- 101 Enhanced Keyboard
- 16-bit Novell Certified Network Card

486DX-33 Mhz	$785.00
486SX-33 Mhz	$675.00
486SX-25 Mhz	$595.00
386SX-33 Mhz	$425.00

- Motherboard w/CPU
- 2MB Memory, 70ns
- Monochrome Card
- 14" Monochrome Monitor
- Mini-Slim Case w/Power Supply
- 101 Enhanced Keyboard
- 16-bit Novell Certified Network Card
- Boot Prom

VL-BUS SYSTEM

486DX2-66 Mhz	$1639.00
486DX-50 Mhz	$1539.00
486DX-33 Mhz	$1359.00
486SX-33 Mhz	$1249.00

- Motherboard w/256K Cache
- 4MB Memory, 70ns
- VL-Bus Super VGA Card w/1MB
- 14" Super VGA Monitor, .28mm
- Super I/O Card (2S,1P,1G)
- 120MB IDE Hard Drive
- 1.2MB Teac Floppy Drive
- 1.44MB Teac Floppy Drive
- Hi-Resolution Serial Mouse w/Pad
- Mini-Tower Case w/200 Watts P.S.
- 101 Enhanced Keyboard
- DOS 6.0 w/Document

ISA SYSTEM

486DX2-66 Mhz	$1579.00
486DX-50 Mhz	$1479.00
486DX-33 Mhz	$1299.00
486SX-33 Mhz	$1189.00

- Motherboard w/256K Cache
- 4MB Memory, 70ns
- Super VGA Card w/1MB
- 14" Super VGA Monitor, .28mm
- Super I/O Card (2S,1P,1G)
- 120MB IDE Hard Drive
- 1.2MB Teac Floppy Drive
- 1.44MB Teac Floppy Drive
- Hi-Resolution Serial Mouse w/Pad
- Mini-Tower Case w/200 Watts P.S.
- 101 Enhanced Keyboard
- DOS 6.0 w/Document

* All prices are subject to change without prior notice

• School & Corporate P.O. are welcome!!! •

RANTEK
Computer Center

22129 Sherman Way, Canoga Park, Ca. 91303

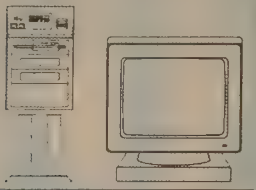
We Welcome Corporate and Government Accounts

BETTER BUSINESS BUREAU
BBB
MEMBER

Since 1986

Sales (818) 347-1100

Service (818) 347-5225



MAXTOR 7345A

345MB IDE Hard Drive with Built-In 64k Cache.

$399

Upgrade Special of the Month

486-33DX VLB **Local Bus** Motherboard Upgrade. ***FREE*** Labor and 1MB VLB Local Bus Video Card with this ad.

$649

Probook Series 1 Notebooks
386-25SX, 4MB RAM, 80MB Hard Drive **$1299**
386-25SX, 4MB RAM, 120MB Hard Drive **$1499**

AST Notebooks
486 SL25, 4MB RAM, 80 MB Hard Drive **$2399**
386 SL25, 4MB RAM, 120MB Hard Drive **$2199**

All Systems Include:

Desktop or Mini-Tower Case, 120 MB High-Speed Hard Disk, 5.25 and 3.5 Inch High-Density Floppy Drives, 16-Bit SVGA Card (1MB RAM), Super VGA Monitor (1024x768, .28mm Dot Pitch), 2 Serial Ports, 1 Parallel Port, 1 "Game" Port, 101-Key Enhanced Keyboard, DOS, and a ***1 Year Parts & 3 Year Labor Warranty***

386-33SX	**386-40DX**	**486-33DX**	**486-33DX VLB Local Bus**	**486-66DXII**	**486-66DXII VLB Local Bus**
2MB RAM	128k Cache 4MB RAM	256k Cache 4MB RAM	256k Cache 4MB RAM	256k Cache 4MB RAM	256k Cache 4MB RAM
$999	**$1099**	**$1399**	**$1499**	**$1699**	**$1799**

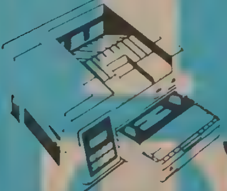
System Options:

Free Mouse & Mouse Pad With Every System When you Present this Ad

Medium Tower Case	35	Diamond Viper VLB Local Bus	400	Pro-Audio Spectrum 16	229
Full Tower Case	75	VLB Local Bus Super IDE I/O	60	DTC SCSI 3280/3270 ISA/VLB Card	159
Full Tower Case (Dual Fan)	100	Okidata 380 Dot Matrix Printer	239	Logitech Trackman	99
245MB Hard Disk	150	Okidata OL830+ Laser Printer	1149	Logitech Serial Mouse	29
KFC 17'' .26DP SVGA Monitor	650	Internal 2400 Modem	59	Internal 120Mb Tape Backup	189
Orchid 1280 Plus Card	175	Internal 2400/9600 Fax-Modem	79	Internal 250Mb Tape Backup	249
Orchid VA VLB Local Bus Card	200	Internal 9600 Modem	179	NEC CDR-84 CDROM	599
Diamond Stealth Video Card	150	Internal 14.4K Fax-Modem	199	NEC CDR-74 CDROM	699
Diamond Stealth VLB Local Bus	125	Sound Blaster Pro Deluxe	159	Smart & Friendly PCD700i CDROM	350

OKIDATA® OL400

4 Pages Per Minute, 300 Dots Per Inch, HP Series II Compatible, 17 Resident Fonts, 5 Year Warranty on Printhead, 1 Year Warranty on Parts and Labor, Includes Letter Tray & Toner.



ON DISPLAY

$499*

***With Manufactures Mail-In Rebate**

KFC Flat Screen 17" MONITOR

1280 x 1024 Resolution, .26 Dot Pitch, Full Screen Display, Non-Interlaced, 72Hz Refresh, Tilt & Swivel Base, Adjustable Screen Display, and a LCD Display that tells you what resolution you are using as well as the current refresh rate.

ON DISPLAY

$899

We also carry...

Motherboards, Simms, Sipps, DRAM, Video Cards, IDE Controller Cards, SCSI Controller Cards, EISA Controller Cards, Hard Drives, Floppy Drives, Sound Cards, CD ROM Drives, Monitors, Keyboards, Printers, Cables of every Sort and Size, I/O Cards, Software, Printer Memory Boards, Scanners, Video Capture Boards, More Notebooks, and Just about anything else you could think of. Try us for those *"Hard To Find"* Items.

Financing & Leasing Available

All Prices Reflect a 3% Discount For Cash or Check.
Prices and Availability subject to change without notice

Because Service Doesn't Stop at the Cash Register

RANTEK
COMPUTER CENTER

22129 SHERMAN WAY - CANOGA PARK - CA. - 91303

SWITCHBOXES

2 CPU - 1 Par. Printer by ORA	$20
2 CPU - 1 Ser. Printer by ORA	$20
1 CPU - 2 Ser. Device by ORA	$25
A-B-C-D DB25 by ORA	$29
A-B-C-D Centronix by ORA	$29
A-B Centronix by ORA	$20
A-B DB25 by ORA	$30
A-B Auto Centronix by ORA	$29
A-B Auto DB25 by ORA	$29
A-B Centronix "Generic"	$20
A-B DB25 "Generic"	$20
A-B-C-D Centronix "Generic"	$29
A-B-C-D DB25 "Generic"	$29
Long Link 25′ Extension Cable	$149

CABLES

6′ SCSI M/M	$20
DB9 Monitor 12′ Extension	$15
6′ Centronix Printer	$10
10′ Centronix Printer	$12
15′ Centronix Printer	$15
25′ Centronix Printer	$20
50′ Centronix Printer	$49
6′ Centronix - Centronix	$15
10′ Centronix - Centronix	$20
6′ Serial	$10
10′ Serial	$12
25′ Serial	$22
50′ Serial	$49
5 BNC Monitor Cable	$39

Network Cards

Dlink 100 TP	$129
NE-2C PS/2	$289
NE-1000	$109
NE-2000	$169
NE-2000 TP	$159
NE-2000 5 Pack	$699
3-Com Etherlink II/16	$189
3-Com Etherlink III/TP	$169
Lantastic AE-2 Card	$249
Lantastic AE-3 Card	$279
Intel EtherExpress 16 TP	$149
SMC Elite 16 TP	$159

TAPE BACKUP

Irwin 120 Internal	$189
CMS 120 Internal	$189
Summit 120 Internal	$189
Summit PS/2 120 Internal	$199
Irwin 250 Internal	$249
Maynard 250 Internal	$259
Iomega 250 Internal	$239
CMS 250 Internal	$249
Summit 250 Internal	$249
Summit PS/2 250 Internal	$259
Mt, Network Solutions 250 Int.	$259
CMS Trakker 250 External	$449
Summit 305 Internal	$309
CMS Powertape 4GB External	$1,795

U.P.S.

250 Watt by SL Waber	$139
500 Watt by SL Waber	$239
450 Watt LAN by Tripplite	$499
600 Watt LAN by Tripplite	$599
800 Watt LAN by Tripplite	$699
1600 Watt by TSI Power	$1,399
BK250 Watt by APC	$139
Smart UPS 600 watt by APC	$499
Smart UPS 900 watt by APC	$699
UPS Monitor Board by APC	$79
Smart UPS 400 Slimline by APC	$399
BK450 watt by APC	$249
BK600 watt by APC	$349
BK900 watt by APC	$499

Mice

Dexxa Serial	$29
Kensington Serial Trackball	$109
Kensington Bus Trackball	$129
Kurta 12x12 4 Button Pad	$399
Logitech PS/2	$99
Logitech PS/2 Trackman	$99
Logitech Bus	$79
Logitech Serial Trackman	$99
Logitech Cordless	$109
Logitech Serial	$79
Logitech Portable	$119
Microsoft Bus	$99
Microsoft Serial	$89
Microsoft Ballpoint	$149

DEMO SALE

OKIDATA OL830	*$899*
OKIDATA 321 (NEW!)	*$419*
SAMTRON AMBER MONO MONITOR	*$79*
SAMTRON PAPER WHITE MONO MONITOR	*$79*
AST BARE-BONES 286 SYSTEMS *1MB MEMORY* *1 FLOPPY DRIVE* *MONO CARD* *1 SER/ 1 PAR*	*$199*
Q&A PLUS (NEW!)	*$99*
FILE DIRECTOR (NEW!)	*$19*
CROSS TALK FOR WINDOWS (NEW!)	*$39*
FAST PACK MAIL (NEW!)	*$19*
FLOPPY DISK STORAGE CASE (NEW!)	*$5*
FAX GRABBER FOR WINDOWS (NEW!)	*$39*
COMPLETE FONT LIBRARY CARTRIDGE (NEW!)	*$49*
CANON LBP SERIES FONT CARD SC-1 (NEW!)	*$49*
MICROSOFT WORKS FOR DOS (NEW!)	*$39*
MICROSOFT TRUE TYPE FONT PACK (NEW!)	*$19*
MICROSOFT WORKGROUPS FOR WINDOWS 1 USER (NEW!)	*$49*
FAST BACK FOR WINDOWS (NEW!)	*$49*
ANTISTATIC SPRAY (NEW!)	*$5*

PRINTERS

Okidata 320	$329
Okidata 321	$479
Okidata 395	$999
Okidata 395C	$1,075
Okidata 590	$499
Okidata 591	$650
Okidata Dock-It 3000	$2,500
Okidata Dock-It 4000	$2,900
Canon BJ-10EX	$299
Canon BJ-300	$399
Canon BJ-330	$649
Canon BJ-200	$375
Diconix 701	$499
Seiko Smart Label Pro	$269

MONITORS

Goldstar .51 Dot Pitch VGA	$225
Sony 1320 .25 Dot Pitch	$385
Sony 1730 .25 Dot Pitch 17"	$1050
Mitsubishi 14" Diamond Pro .28	$475
Mitsubishi 17" Diamond Pro .26	$1099
Mitsubishi 20" Diamond Pro .31	$2100
ViewSonic 6E 14" .28 Dot Pitch	$375
ViewSonic 6FS 15" .28 Dot Pitch	$599
ViewSonic 5E 14" .28 Dot Pitch	$450
ViewSonic 15 15" .28 Dot Pitch	$599
ViewSonic 17 17" .28 Dot Pitch	$1199
ViewSonic 20 20" .28 Dot Pitch	$1950
CTX 14" Interlaced .28 Dot Pitch	$299
CTX 14" NI .28 Dot Pitch	$349

SOFTWARE

ACT! V.2.1	$285
Word for Windows V.2.0	$325
WordPerfect V.5.2	$325
Wordstar V.7.0	$299
Bannermania	$25
Borland C++ V.3.1	$375
Central Point Anti-Virus V.1.4	$125
Corel Draw! V.3.0	$175
DataPerfect V.2.3	$325
DBase IV V.2.0	$575
Desqview/X V.1.1	$225
Direct Access	$115
Facelift for WordPerfect V.2.0	$89
Generic Cadd 3D V.2.0	$299

VIDEO CARDS

Diamond SpeedStar Pro	$159
Diamond SpeedStar Pro VLB	$169
Diamond Stealth Pro	$299
Diamond Stealth Pro VLB 2MB	$375
Diamond Stealth 24	$209
Diamond Viper VLB 2MB	$499
Orchid Fahrenhiet VA/VLB	$275
Orchid Fahrenhiet 1280 Plus	$215
Orchid Fahrenhiet 1280 Plus VLB	$225
Orchid Prodesigner IIS	$225
ATI Graphics Ultra Pro 2MB	$450
ATI Graphics Ultra Pro VLB 2MB	$450
Trident 1MB SVGA	$75

DISK CONTROLLERS

Adaptec 1540C SCSI	$229
Adaptec 1542C SCSI Plus	$359
Adaptec 1742A SCSI EISA	$575
Adaptec 1542C SCSI	$249
Adaptec 1542C Kit	$299
Allways IN-2000 Pro Kit	$279
DTC 3280AS SCSI	$159
DTC 3290AS SCSI EISA	$569
DTC 2290 IDE EISA	$159
DTC 3270 SCSI VLB	$159
Future Domain 1670 SCSI	$169
UltraStor 34F SCSI VLB	$375

MODEMS

Smart One 24/96 M/Fax Int	$79
Smart One 2400 Modem Ext	$79
Smart One 2400 Modem Int	$59
Smart One 9600 Modem Int	$219
Smart One 24/96 M/Fax Ext	$99
Smart One 14.4/14.4 M/Fax Int	$199
Smart One 14.4/14.4 M/Fax Ext	$259
Boca 14.4/14.4 M/Fax Int	$229
Boca 14.4/14.4 M/Fax Ext	$319
Cardinal 2400 Modem Int	$59
Edison 24/96 M/Fax Ext	$99
Hayes 2400 Modem Int	$59
Practical Pocket 24/96 M/Fax	$149
USRobotics 14.4/14.4 M/Fax Int	$229

"IT'S NOT WHAT YOU BUY,
BUT WHERE YOU BUY IT FROM"

SAME QUALITY • BETTER DEAL

OPEN 7 DAYS PER WEEK!

GUARANTEED

M - F: 9-6 p.m.
S - S: 11-4 p.m.

WESTERN DIGITAL

Hard Drives

170Mb • Average Seek Time of < 14ms • 32Kb CacheFlow™ Buffer • DMA Data Transfer and Block Made Support • Automatic Head Parking • Advanced Defect Management • Guaranteed compatible with all AT-compatible Computers and Standard Operating Systems • 100,000 Hrs. MTBF **$209**

212Mb PLUS All the features on the 170Mb PLUS 64Kb CacheFlow™ Buffer • Hyperseek™ **$249**

Caviar

CAVIAR MODELS

340Mb IDE 13ms **New Low Price**	**$340**
250Mb IDE < 13ms..	**$279**

1 Piece Pricing • CALL For Quantity Pricing!

ORCHID PRODUCTS:

• Orchid Super VLB 486 M/B (33-66MHz) 256K	CALL
• Orchid Super VLB 486 M/B (50MHz) 256K	CALL
• Orchid Super VLB IDE Ctrl. w/I/O Card	CALL
• Orchid VLB 32 Bit Fahrenheit 1Mb (2Mb Exp.)	CALL
• Orchid VLB 32 Bit Fahrenheit/VA 1Mb (2Mb Exp.)	CALL
• Orchid Pro Design IIS ISA 1Mb	CALL
• Orchid Pro Design IIS EISA 1Mb	CALL
• Orchid P9000 3Mb VLB (2Mb VRAM, 1Mb DRAM)	CALL
• Orchid Celsius/VLB	CALL

INTRODUCING:

PC MAGAZINE EDITOR'S CHOICE

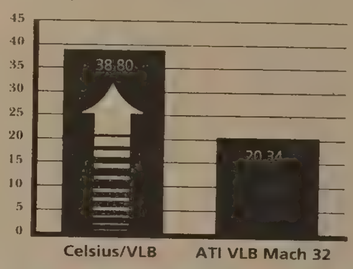
AND THE WINNER IS...

ORCHID

CELSIUS/VLB

THE HIGHEST PERFORMANCE WINDOWS ACCELERATOR AVAILABLE

Wintach 1.2—Overall RPM Test
*Superboard 486DX2-66MHz**



NOW AT MESA COMPUTER

THE BEST SOURCE FOR ORCHID PRODUCTS IN SOUTHERN CALIFORNIA, LOWEST PRICES... WITH ANY QUANTITY

ORCHID SYSTEM SERIES

- ◆ Orchid VLB Mb & 256K Cache
- ◆ 4Mb RAM Installed & AMI Bios
- ◆ Orchid IDE FD/HD Controller
- ◆ Dual 1.2 & 1.44Mb Floppies
- ◆ 170Mb IDE H.Disk Drive
- ◆ Orchid Fahrenheit VLB 1Mb Video
- ◆ AT 2S/P/G & Hi-Resolution Mouse
- ◆ Mini Size Case & 230W Power Supply
- ◆ Enhanced 101 Keys Keyboard
- ◆ INTEL 486DX CPU
- ◆ 14" .28 SVGA N-I Monitor

FOR 33MHz	$1555
50MHz	$1735
66MHz	$1825

OPTIONAL:

◆ CD ROM Mitsumi	$190
◆ FAX/Modem 96/24	$55

BUS MASTER SCSI 2 EISA VLB

- ◆ EISA VLB Motherboard & 64K Cache
- ◆ 8Mb Memory 70ns & AMI Bios
- ◆ 32 Bit VLB-SCSI Controller
- ◆ Dual 1.2 & 1.44Mb Floppies
- ◆ 340Mb SCSI Hard Drive
- ◆ Orchid Celsius 2Mb VRAM Video
- ◆ AT 2S/P/G & Hi-Resolution Mouse
- ◆ Full Size Deluxe Case
- ◆ Enhanced 101 Keys Keyboard

FOR 33MHz	$2140
DX2/50MHz	$2280
DX2/66MHz	$2375

MONITOR OPTIONAL:

◆ ViewSonic 15"	add $495
◆ ViewSonic 7-17"	add $925
◆ MAG FX-15F 15"	add $525

INTEL CPU DX VESA LOCAL BUS

- ◆ 2 VESA LB Motherboard & 64K Cache
- ◆ 4Mb Memory 70ns & AMI Bios
- ◆ 32 Bit IDE VLB Controller
- ◆ Dual 1.2 & 1.44Mb (2.88 Opt)
- ◆ 245Mb 12ms IDE Hard Drive
- ◆ Genoa 1Mb VLB Video Card
- ◆ AT 2S/P/G & Hi-Resolution Mouse
- ◆ Mini Vertical Case & Power Supply
- ◆ Enhanced 101 Keys Keyboard

FOR 33MHz	$1245
50MHz	$1385
DX2/66MHz	$1480

MONITOR OPTIONAL:

◆ Infiniti VESA 14"	add $303
◆ Arcus VESA 14"	add $310
◆ Arcus VESA 15"	add $425

FILE SERVER MAXIMUM POWER

- ◆ AMI EISA VLB Enterprise III
- ◆ 16Mb Memory Installed
- ◆ Mylex EISA SCSI Controller
- ◆ Dual 1.2 & 1.44Mb Floppies
- ◆ 2.0GB (SCSI-2) H.Drive
- ◆ Orchid VLB Fahrenheit
- ◆ AT 2S/P/G & Microsoft Mouse
- ◆ Full Size Case w/Extra Fan
- ◆ Focus 9000 Deluxe Enhanced Keyboard
- ◆ MS DOS 6.0 & Windows 3.1
- ◆ INTEL DX2-66MHz CPU
- ◆ Socket Ready For Pentium
- ◆ Monitor (Optional)

ONLY $4990

FOR FREE BROCHURE OR TO ORDER CALL

1.800.929.MESA

MESA COMPUTER

1600 Monrovia Ave., Newport Beach, CA 92663
TEL: 714-650-0633 FAX: 714-650-6371

ANAHEIM COMPUTER

1027 N. Magnolia Ave., Anaheim, CA 92801
TEL: 714-826-4680 FAX: 714-826-4682

Mac Performance Art, TOG On Trashcans, And More

BY DAVID MORGENSTERN

BMUG is a remarkably democratic institution all told, although there are those that find it an all-out anarchy, while others rail against even the slightest limitation of action. The day-to-day affairs of the BMUG office are overseen by our Executive Director, Steve Costa, and our hard-working staff. But sometimes there are sticky questions that can only be resolved through a consensus of the concerned parties. BMUG's baseball team is one of those questions. Should BMUG attend A's or Giants games?

> TOG feels that many wrong software design decisions were made because of limitations in the original Macintosh Hardware.

The A's contingent claims that since BMUG is located in Berkeley, we have a natural affinity to the Oakland A's. However, those of us that prefer the National League, point out that the Coliseum and Candlestick Park are geographically equidistant to the BMUG office. There have been some close calls across the table at the aprés-meeting food debriefings. The compromise solution—to have a BMUG day at each stadium—has not gained acceptance among the warring factions. This debate will continue into extra innings through the summer. Perhaps a meeting at a neutral site—the racetrack!

BMUG

Copyright © 1993 by David Morgenstern. All rights reserved. David Morgenstern believes that computers and BMUG can cultivate a positive change in the world. He volunteers time at BMUG when he's not working his "regular job," writing, or prowling around the BMUG Bulletin Board. He can be reached through the BMUG office, on CIS at 72030,1607, and on Internet at davidm@sfsuvax1.sfsu.edu.

WEST THESE WEARY BONES

There was a serious snafu with the Apple Expo West show, held a couple of months ago in the San Francisco Civic Auditorium—no one came to the party! The show is a transplant from Boston, and the organizers, Event Specialists, predicted that more than 30,000 persons would walk through the doors. Unfortunately, only a quarter of that number found their way onto the show floor. This was a shame, since there were many interesting products on display.

The semantics of the Macintosh world was part of the problem. "Apple" does not mean "Macintosh" to most users. The Apple computer has always meant the Apple II, and mixing up the two names has always been the mark of a Macintosh newbie.

Nowadays, the orphan Apple computer is only of interest to schools that still have old Apple models hanging around, or to the die-hard fans that refuse to buy a Mac. One of these poor dudes ambled up to the BMUG booth looking for a fight, claiming that his souped-up Apple system can run rings around the Mac. Probably true, but still pathetic. Although there were several handfuls of Apple products and user groups at the show, it was predominantly a Macintosh affair. Sadly, most of the public saw the "Apple" in the advertising, and decided that they'd do better to wait for a real Macintosh Expo.

The best thing at the Apple Expo West was Dream Encoding, a performance piece by a local San Francisco Bay Area artist, Pamela Z. Dream Encoding started with a conservatively dressed young woman giving a marketing demonstration of a new product, Art-O-Matic. "Why bother with practicing?" claimed the presenter. The product promised to bestow instant "art" to the user. "No matter how dull or uninteresting your life has been, Art-O-Matic will bring an instant lifestyle change."

The demonstration featured a series of professional-looking packaged computer and video presentations on several large screen displays. Suddenly the displays were filled with a woman with wild dreadlocked hair, who peered about, and then disappeared. This apparition disturbed the demonstration and the poor marketing representative's composure. She kept trying to get things back on track, but this strange video character, who looked remarkably similar to the presenter, kept returning, interfering and finally taking over the demonstration. The displays went wild, changing colors, picturing natural scenes and strange effects. The presenter herself was transformed, suddenly singing opera and then merging with the video version of herself. Of course, the video personality and the marketing representative were one and the the same person, the singer/performance artist, Pamela Z.

The work, sponsored by Media Tree, a San Francisco video services company, and Zakros Interarts/New Music Theatre, a nonprofit art organization, was very complex in execution, and relied upon many different computer and video technologies. The performance was supported by a crew running several live video cameras, video controllers, MIDI synthesizers, and Macintosh computers. The primary hardware for video display and control were from Fast Electronics, a German company. They have a new line of professional desktop video equipment called the Video Machine.

Pamela was able to adjust some of the music and video effects through a BodySynth controller. The BodySynth, invented by local e-music guru, Ed Severinghaus, translates the wearer's movements into signals that can trigger and control MIDI devices. The device is becoming popular in the high-tech music community, and has been used in performances by Laurie Anderson and Peter Gabriel.

Some onlookers thought that Art-O-Matic was a real product, which flabbergasted Pamela Z. She thought it "totally bogus" when audience members inquired where and when Art-O-Matic would be available to the public. Other viewers maintained there were two different women (credit Pamela's acting ability), and that the nice saleswoman couldn't possibly be Pamela in a wig. The pain and distress of Pamela's marketing persona were certainly familiar to me, after sitting through many years of real-life screwups in

"In A League By Itself..."

90 DAYS FREE FINANCING AVAILABLE

MICRO LEAGUE INC.

COMPLETE SALES & FULL SERVICE CENTER

Authorized Warranty Repair Provider, On Site Service, Rental, Delivery & Setup, Training, Technical Support, Network Specialist

Lower Prices

Authorized Dealer

Apple® Macintosh®

POWERBOOK 145, 4MB, 80	$1780
POWERBOOK 160, 4MB, 40/80/120	$1850/CALL/2450
POWERBOOK 165C, 4MB, 80/120	$2450/2750
POWERBOOK 180, 4MB, 80/120	$3250/3545
POWERBOOK 180C, 4MB, 80/160/160-Modem	$3750/4050/CALL
POWERBOOK DUO 210, 4MB, 80	$1399
MAC LC III 4MB, 80/160 (512K VRAM)	$CALL/1349
MAC IIVX 4MB, 80/230 5MB, 80-CD	$1349/1639/1569
MAC CENTRIS 610 4MB, 80; 8MB, 230/230-CD	$1229/1899/2059
MAC CENTRIS 650 8MB, 80/230/230-CD/500	$CALL/3099/3450/3699
STYLEWRITER II PRINTER	$319
APPLE SELECT 300 LASERWRITER PRINTER	$675

COMPAQ

Authorized Dealer & Service Center

Contura 386SL/25, 4MB/80/120HD	$1495/$1649
Contura 486SL/25, 4MB/120/200HD	$1999/$2195
Contura 486SL/25C, 4MB/120/200HD	$2649/$2929
Contura 486SL/25CX (Active Matrix), 4MB/120/200HD	$3195/$3495
LTE Lite 486SL/25C (Active Matrix), 4MB/120/200HD	$3899/CALL
Prolinea 486DX/33, 4MB/120/240HD (Local Bus) DOS, WIN, Mouse	CALL/$1739
Prolinea 486DX2/66, 4MB/120/240HD (Local Bus) DOS, WIN, Mouse	$1995/2179
DESKPRO ALL MODELS AVAILABLE	CALL US!
Pagemarq 15 15ppm Laser Printer	$2529

MICRO LEAGUE • Computer Systems •

ALL SYSTEMS INCLUDE:

- 256K CACHE, 4MB RAM
- TEAC 1.2 & 1.44MB FLOPPY DRIVE
- 120MB IDE HARD DRIVE
- 32-BIT LOCAL BUS SUPER IDE & I/O (2s/1p/1g)
- 32-Bit LOCAL BUS SVGA Card W/1MB
- 14" SVGA Monitor (1024x768) .28
- 101 Enhanced Keyboard
- Mini Tower or Desktop W/P.S.

486DX-33 LOCAL BUS	$1359
486DX-50 LOCAL BUS	$1549
486DX2-66 LOCAL BUS	$1595

IBM AUTHORIZED DEALER

Thinkpad 350, 486SL-25 4MB,125/250	$1999/2429
Thinkpad 350C, 486SL-25 4MB,125/250	$2599/2999
Thinkpad 500, 486SL2-50 4MB,85/170	$1999/2499
Thinkpad 720, 486SLC2-50 4MB,120/160	$3195/3355
Thinkpad 720C, 486SLC2-50 4MB,160HD	$CALL

TOSHIBA NOTEBOOKS

AUTHORIZED DEALER & SERVICE CENTER

T1900 486 SXA/20, BUNDLE 4MB, 80/120/200	$1645/1789/CALL
T1850 4MB,120 BUNDLE	$CALL
T1850C 4MB,120HD BUNDLE	$1849
T4500 486DX/20, LCD 4MB, 80/120/200	$1849/2049/2345
T4500C 486DX/20, ACTIVE MATRIX, 4MB, 120/200	$2885/3139
T4400 486DX/25,ACTIVE MATRIX 4MB,120, 200	$3395/CALL

PRINTERS

EPSON

AUTHORIZED DEALER/ON-SITE SERVICE PROVIDER

2 YEARS WARRANTY

AP-3250, 24 Pin, 200 CPS	$199
LX-810, 9Pin, 200cps	$179
LQ-570+, 24Pin	CALL
FX-870, 9Pin, 380CPS	$269
LQ-870, 24Pin, 300cps	$445
LQ-1070, 24Pin, 132 COL	CALL
FX-1170, 132COL, NLQ	$359
LQ-1170, 24Pin, 132 Col	$599
LQ-2550, 24Pin, Color Cap	$899
Action Laser 1000, 6ppm	$655
EPL-8000, 10ppm laser	$859
Action Laser 1500, 1MB	$699
Stylus 800, 360x360dpi	$359

OKIDATA

AUTHORIZED DEALER & SERVICE CENTER

320/321	$309/419
390/391	$425/CALL
520/521	$375/489
590/591	$429/CALL
OL400 4PPM, w/Toner	*485
OL810 8PPM, 1MB, w/Toner	$879
OL830+ 8PPM, 2MB, Postscript	$1059
OL850 8PPM, 2MB, Postscript	CALL
Doc-it 3000, 300dpi, Laser, Fax, Scanner, Copier	$2395
Doc-it 4000, 400dpi, Laser, Fax, Scanner, Copier	$2725

CITIZEN

AUTHORIZED DEALER & SERVICE CENTER

2 YEAR WARRANTY

GSX190	$175
GSX230	$239
GSX240	$299
GSX145, 132Col	$399

Canon

CANON BUBBLE JET

BJ-10EX	$255
BJ-200, 360dpi	$329
BJ-300, 80 Col, 600 cps	$355
BJ-330 132 Col, 600 cps	$525

HEWLETT PACKARD

HP 4L w/Toner	$649
HP IIIP w/Toner	$849
HP4 w/Toner	CALL
HP4M w/Toner	$1885
HP 4SI/ 4SI MX w/Toner	CALL
DeskJet 500/Deskwriter	$359
Deskjet Portable	$375
DeskJet Deskwriter 500C	$489
DeskJet/Deskwriter 550C	$689
DeskJet 1200C	CALL

Corporate Accounts, Dealers, Government and School P.O.'s Welcome

MONDAY-FRIDAY 9AM-6:30
SATURDAY 10:30AM-4PM

(310) 450-2708 • 800-466-2708 FAX (310) 452-1294

MICRO LEAGUE INC. • 1844 LINCOLN BLVD. (NORTH OF PICO) SANTA MONICA, CA 90404

* Price after Rebate SINCE 1989 • PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE

MICRO LEAGUE INC

demonstrations at BMUG meetings.

There were a number of other cool items at the show—here are the highlights:

- Meridrew Enterprises showed their new environmentally correct Klear Screen computer cleaning spray and cloth. Many of the standard cleaning products used in the industry contain ozone-depleting compounds, but the Klear Screen spray is 100% free of these nasties. The Klear Kloth is a very soft polishing cloth that will not scratch screens, or leave dust behind. They're also great for your glasses.

The leading screen and keyboard cleaners often contain alcohol and ammonia, which are flammable and toxic chemicals, and should be used with adequate ventilation. Klear Screen is nontoxic and requires no special handling or warnings. It's also safer for the plastics and display screens we see on todays computer products. Apple now warns users not to use ammonia or alcohol-based cleaners on their new products, since they may react with the plastics.

- I was impressed with the Think for Yourself CD-ROM by the PEMD Education Group. It's a collection of statistics from United Nations, World Health Organization, and other governmental sources, with an easy to use Discovery data analysis program.

The information includes data on AIDS, the environment, health, and American demographics. It must be exciting for students to be asked real questions, and then deal with real data sets to discover answers. It's one thing to read about comparisons of the rate of AIDS between Africa and other countries, and it's another to draw your own conclusions from the same figures used by our leaders. There are so many different ways that this product could be used by students, with or without a statistical background.

Statistics can sometimes intimidate the nonmathematical, or the younger student. The Discovery application makes the analysis process understandable, and lets kids get right into the data with their hands. Statistical mud pies!! The results can be cut and pasted into a report, or the application can dump the results into HyperCard-based lesson modules. There are different prices for students, teachers, and classrooms, ranging from $50 to $150.

TRASH TALK

A while ago, I covered some of the changes to the Macintosh Human Interface Guidelines. I happened to get a response from Bruce Tognazzini (known as TOG), a former Apple interface designer who now works at Sun. He sent me a chapter from his forthcoming interface book that describes some shortcomings of the Macintosh interface.

TOG feels that many wrong software design decisions were made because of limitations in the original Macintosh hardware. System software engineers and application programmers have been carefully following these limitations over the years, even though current Macs are nothing like the original. He feels that these original flaws have seriously compromised the functionality of resulting systems.

The primal Macintosh was intended to be an information appliance for the home, a toaster-sized, small screen noncolor computer, with a single, single-sided, floppy disk drive. No hard disks, no memory add-ons, and no opening the box. The theory promoted by Saint Steve Jobs was that the sealed standard box would relieve software developers of the need to continually upgrade their products. TOG says that this decision didn't even last until the Macintosh was released, but endured long enough to force a number of fundamental design decisions that resonate in today's interface, and in other graphic user interfaces influenced by the Mac.

TOG runs on about many "serious" shortcomings of the Mac. Here is his complaint on Trash Can restrictions:

> "At the Admiral's Club at the San Jose International Airport, they have a square hole cut through the surface of the coffee counter with a trash can perched beneath. In front of the hole is a brass plate with the words 'trash dispenser' etched deep into its surface. Presumably the membership are invited to take with them just as much trash as they please, and at no cost.
>
> "Macintosh and other windowing system users are invited to put as much trash as they please into the trash can, just as long as that trash is already lying about the desktop, rather than being within an application window. In most cases, it is quite impossible to drag an object from inside an application across the desktop and drop it in the trash. Why? Because that's the way those young geniuses at Apple did it.
>
> "The original Macintosh was so small that there was not enough room for the application and the desktop (in the form of the Finder) to be inside the computer at the same time. Therefore, there was no possibility of anyone dragging something from an application to the trash because the trash was not there at the time. Yet another limitation faithfully reproduced."

If you're interested in the Mac interface as a subject, I recommend TOG's last book, *TOG on Interface*, which was published last year by Addison-Wesley. It's still available in many computer bookstores.

TIP THE LITE FANTASTIC

- EndNote Plus is one of BMUG's Choice Products for students and teachers. It now comes with a special Plug-In Module for use within Microsoft Word 5 or 5.1. This allows you to format your citations in real time, rather than using the EndNote application to process your document. But there are a number of important things to remember.

Use either the Module or the application, not both. So if you use the Module in a document, don't also insert a couple of citations with the application. The Module actually creates special graphics in the Word file, while the EndNote program's citations are regular text.

If you are using the Plug-In Module, never open the document in an earlier version of Word! Each graphic marker contains information about its particular citation. If you open the document with an earlier version of Word, this information will be completely destroyed. Totally. You will have to reenter all the citations again. Please check on the version of Word that might be on your friend or laser parlor's hard drive before you double click on your file!

- Here's a tiny Trash tip. Beginners often make the mistake of choosing the Eject disk...selection from the Special menu in the Finder to eject a disk. Although this seems like the proper thing to do, it often leads to problems. Your Mac might ask again to see the disk you handed a coworker heading to the airport.

If you want to eject a disk and take it away with you, use the Put Away command (Command + y), or drag the disk icon to the Trash Can. If you want to eject a disk in order to copy something from one floppy to another, use the Eject disk...selection (Command + e). Does it make sense? No. Work? Trust us.

- The flea markets and swap meets are filled with old Mac Plus and SE models, but the proud owners of these "bargains" suddenly discover that up-to-date versions of software sometimes won't work on these orphan computers. No one has a clue as to what's good or bad. BMUG to the rescue! We have back issues of the incredible BMUG Newsletter available from past years. The Fall '89, Spring and Fall '90 are filled with useful articles, and cost only $5 (there's an additional charge for postage and handling) from the BMUG office. Call (510) 549-2684 or fax (510) 849-9026. ■

WHAT IS BMUG?

BMUG is an educational nonprofit consumer advocacy group organized to share information and provide critical direction to users and developers in the computer community worldwide. It is an independent advocate, not affiliated with any manufacturer, delivering trustworthy information and useful products.

Like any growing organization, it is many different things to its 14,000 international members. BMUG supports many Special Interest Groups (SIGs), an 18-line Bulletin Board System (BBS), free HelpLine, software library, weekly meetings, publications, and much more. BMUG also puts out a semi-annual 350+ page book that we call our "newsletter."

Our motto continues to be: *We're in the business of giving away information.*

Come and join in the dialogue at the BMUG main meeting every Thursday evening, 6:30–9:30 (or whenever we finish) on the UC campus. BMUG West and BMUG South are monthly meetings held in San Francisco and San Jose.

The BMUG Office, 2055 Center Street (a half block from the BART Station) is open to the public from 9 am to 5 pm. Please come by and say hello, meet other members, and hang out.

The BMUG Helpline provides volunteer technical assistance and telephonic hand-holding for our members. If your question can't be answered on the spot, we try get you in touch with someone that can help. Of course, not every problem can have a happy ending—but we try. Improve your Macintosh education, and help others by becoming a Helpline volunteer!

BMUG has one of the most up-to-date, comprehensive software libraries around with hundreds of disks filled with the latest versions of public domain or shareware programs, and HyperCard stacks. New disks are unveiled almost every week at the Thursday general meeting. BMUG also brings you the *TV-ROM™*, a fantastic collection of public domain QuickTime videos.

Our new graphic user interface FirstClass 18-line BBS offers many of the latest versions of files in our software library, as well as news, private mail, rumors, etc. With our multi-line capability, you can have access to BMUG almost 24 hours a day. It's easy to use, fun, and a great resource.

BMUG can be found on most electronic services. BMUG can also be reached through the Internet international network through UG0001@applelink.apple.com.

To get some further information about BMUG please write to: BMUG, 1442A Walnut Street #62, Berkeley, CA 94709. If you prefer to phone our business office call (510) 549-BMUG, or FAX (510) 849-9026.

BAR CODE IS OUR SPECIALTY

INPUT AUTOMATION, INC.

The single source for all your bar code system needs: hardware, software, consulting and system design. Our philosophy is based on two principles: high-quality industrial products, and the best technical support available.

DESIGN AND CONSULTING

To create your optimal solution, an Input Automation consultant will design a complete system, and then recommend equipment that fills your exact needs.

INPUT automation, inc.
Authorized Value-Added Distributor

We will not be satisfied until our bar code system meets your demanding standards.

Call today for free info & product information

(Dealer inquiries welcome)

Call for an appointment to see our Showroom

Southern California
Tel: (310) 539-3598
Fax: (310) 530-2849
Tel: (714) 374-4511

Northern California
Tel: (510) 685-6563
Fax: (510) 685-2511

Bar Code Label Printers, Software, and Supplies

Laser Scanners. Omnidirectional, hand-held/hands-free, fixed mount.

Panasonic Portables. Recognized the world over for quality

Welch Allyn bar code readers/scanners. Over 15 years leadership in bar code manufacturing.

©1992 Copyright Input Automation, Inc. All rights reserved. All product names mentioned are trademarks of their respective manufacturers. Input Automation, Inc. recognizes these trademarks.

Citicom

CITICOM GUARANTEE
WE WILL BEAT ANY SYSTEM PRICE IN THIS MAGAZINE !

APPLY FOR YOUR OWN
CITICOM CREDIT LINE
QUICK APPROVAL
90 DAYS INTEREST FREE

COMPUTER SYSTEMS RETAIL AND WHOLESALE

COMPLETE SYSTEMS

486 DX2-66
256K CACHE
INTEL CPU AND AMI BIOS
FULL TOWER CASE
280 WATT POWER SUPPLY
4MB RAM
245MB HARD DISK
SVGA MONITOR (.28DP)
SVGA GRAPHICS CARD W/ 1MB
1.2 & 1.44 FLOPPY DRIVES
IDE CONTROLLER
2S, 1P, & 1G PORTS
101 ENHANCED KEYBOARD
HIGH RESOLUTION MOUSE
$1495

486 DX-33
256K CACHE
VESA LOCAL BUS
INTEL CPU AND AMI BIOS
MED. TOWER CASE
230 WATT POWER SUPPLY
4MB RAM
213MB HARD DISK
SVGA MONITOR (.28) VESA STD.
32-BIT VLB VIDEO CARD W/ 1MB
1.2 & 1.44 FLOPPY DRIVES
32-BIT IDE CONTROLLER
2S, 1P, & 1G PORTS
101 ENHANCED KEYBOARD
HIGH RESOLUTION MOUSE
$1385

486 DX-33
256K CACHE
INTEL CPU AND AMI BIOS
MINI TOWER CASE
230 WATT POWER SUPPLY
4MB RAM
120MB HARD DISK
SVGA MONITOR (.28DP)
SVGA GRAPHICS CARD W/ 1MB
1.2 & 1.44 FLOPPY DRIVES
IDE CONTROLLER
2S, 1P, & 1G
101 ENHANCED KEYBOARD
HIGH RESOLUTION MOUSE
$1135

386 DX-40
128K CACHE
AMI BIOS
MINI TOWER CASE
230 WATT POWER SUPPLY
1MB RAM
120MB HARD DISK
VGA MONITOR
VGA GRAPHICS CARD
1.44 FLOPPY DRIVES
IDE CONTROLLER
2S, 1P, &1G
101 ENHANCED KEYBOARD
HIGH RESOLUTION MOUSE
$665

BAREBONE SYSTEMS

386DX-40	486SX-25	486DX-33	486DX2-50	486DX-50	486DX2-66
128K CACHE		256K CACHE	256K CACHE	256K CACHE	256K CACHE
$255	$335	$525	$625	$655	$735

ALL SYSTEMS INCLUDE:

MINI TOWER CASE	IDE CONTROLLER
POWER SUPPLY	2S, 1P, 1G PORTS
1MB RAM	101 ENH. KEYBOARD
1.44 FLOPPY	1 YEAR WARRANTY

DISK DRIVES

1.2 Floppy Drive	$ 45
1.44 Floppy Drive	42
120 MB Hard Disk	165
170 MB Hard Disk	195
210 MB Hard Disk	225
340 MB Hard Disk	325
540 MB Hard Disk	CALL

PRINTERS

Epson LQ-570+ (24 Pin)	$ 239
Panasonic 2123 w/ color kit	285

HP Deskjet 500
HP Deskjet 500c
HP Deskjet 550c
HP Laser 4L
HP Laser 4

WE GUARANTEE
THE LOWEST PRICES
ON HP !!

SPECIALS !

Compaq LTE Lite
3/25 Color Notebook
-DEMO MODEL. ONE ONLY.
-4MB RAM
-80 MB HARD DISK
-ACTIVE MATRIX COLOR
-BUILT-IN TRAKBALL
-DOS 5.0 & WINDOWS
$2799

U.S. ROBOTICS
14.4 FAX MODEM
V.32 BIS with V.42 BIS
GROUP III FAX
SOFTWARE INCLUDED
$179

VIDEO CARDS

MGP w/ Parrallel Port	$ 13
VGA w/ 256k	25
SVGA w/ 1MB	55
Vesa Local Bus w/ 1 MB	115

MONITORS

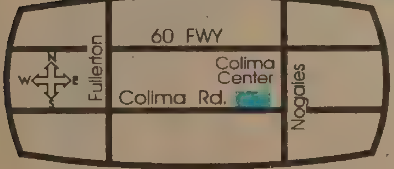
14" Monochrome	$ 95
14" VGA (.42)	180
14" SVGA (.39, 1024x768)	205
14" SVGA (.28, 1024x768)	235
15" SVGA (.28, 1024X768)	425
NEC 3FGe (.28, 1024x768)	595
NEC 4FGe (.28, 1024X768)	725
NEC 5FGe (.28, 1024X768)	1115
MAG MX-15F (.28, 1280x1024)	545
MAG MX-17F (.26, 1280x1024)	975
NANAO T560i (.25, 1280X768)	CALL

WE CARRY ALL BRANDS AND MODELS

BUSINESS HOURS

MON-FRI: 10 - 7
SAT: 10 - 6

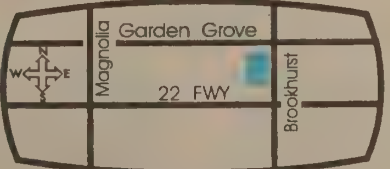
CORPORATE ACCOUNTS WELCOME



18759 Colima Rd.
Rowland Hts. CA 91748
TEL: (818) 913-6555
FAX: (818) 913-5270

* SYSTEM PRICE COMPARISON MUST REFLECT SAME OR EQUIVALENT BRANDS AND/OR PARTS.

TERMS AND CONDITIONS: ALL PARTS AND SYSTEMS CARRY A ONE YEAR LIMITED WARRANTY EXCEPT MONITORS AND PRINTERS WHICH WARRANT BY MANUFACTURERS. PRICES AND AVAILABILITY SUBJECT TO CHANGE WITHOUT NOTICE.



13161 BROOKHURST ST.
GARDEN GROVE, CA 92644
TEL: (714) 537-3399
FAX: (714) 537-2521

EZ COMPUTER

FREE INTRODUCTORY COMPUTER CLASS!

EPSON
AUTHORIZED DEALER

486DX2-66Mhz w/256K CACHE $710/$740	**486SX-25Mhz w/256K CACHE** $375/$405	**486DX2-66Mhz VLB w/256K CACHE** $730/$760
486DX-50Mhz w/256K CACHE $635/$665	**386DX-40Mhz w/128K CACHE** $260/$290	**486DX-50Mhz VLB w/256K CACHE** $655/$685
486DX-33Mhz w/256K CACHE $500/$530	**386SX-33Mhz** $210/$240	**486DX-33Mhz VLB w/256K CACHE** $525/$555

SYSTEMS INCLUDE

- Mini Tower Case
- 220W Power Supply
- 1MB RAM (70ns)
- 1.44MB FDD (TEAC)
- Dual FDD & HDD Controller
- 2 Serial/1 Parallel/1 Game Port
- Real Time And Clock
- 101 AT Enhanced Keyboard (Mitsumi)
- 1 Year Parts Warranty
- 5 Years Labor Warranty
- 72 Hour Burn-In Test

SYSTEMS INCLUDE

- 120MB Hard Drive (Maxtor, Seagate, Conner)
- Mini Tower Case
- 200W Power Supply
- 4MB RAM (70ns)
- 1.2MB or 1.44MB FDD (TEAC)
- Dual FDD & HDD Controller
- 2 Serial/1 Parallel/1 Game Port
- Shamrock 14" SVGA Monitor, .28dp
- Trident SVGA Graphics Card
- **FREE** Mouse
- 101 AT Enhanced Keyboard (Mitsumi)
- 1 Year Parts Warranty
- 5 Years Labor Warranty
- 72 Hour Burn-In Test

SYSTEMS	CASH PRICE	REGULAR PRICE
386SX-33Mhz	$745	$775
386DX-40Mhz w/128K CACHE	$795	$845
486DX-33Mhz w/256K CACHE	$1060	$1120
486DX-50Mhz w/256K CACHE	$1230	$1310
486DX2-66Mhz w/256K CACHE	$1290	$1380

* VESA LOCAL BUS SYSTEMS ADD $145 (INCLUDES 32-BIT VLB CONTROLLER AND VIDEO CARDS)

MONTHLY SPECIAL

4 FREE HOURS OF INSTRUCTION W/A COMPLETE SYSTEM PURCHASE!

16 Bit Ethernet Card	$65
120MB Tape Backup	165
250MB Tape Backup (Colorado/Mountain)	195
2400 Internal Modem	25
9600 SR/2400 Fax/Modem	55
CD-ROM w/Sound Blaster Pro Speaker - 3 CD's	425
14400 Fax/Modem	175
US Robotics 14400 Sportster External Fax/Modem	250
Mitsumi CD-ROM	189

PRINTERS AND SCANNERS

Action Printer 2250	$119
Action Printer 3250	185
LQ 570 Plus	240
LQ 1070	355
Stylus 800	335
Action Laser 1000	620
Action Laser 1500	710
EPL 8000	820
ES 600C Scanner	799
ES 800C Scanner	999

NOTEBOOK SPECIAL!

486DX2-66Mhz Active Color	$3625/$3735
486DX2-50Mhz	$1975/$2035
486DX-33Mhz Passive Color	$2450/$2525
386DXL-33Mhz	$1415/$1460
386SX-25Mhz	$900/$930

INCLUDES
- 4MB RAM
- 80MB Hard Drive
- LCD VGA w/32 Gray Scale Unless Otherwise Noted
- 1.44 Floppy Drive
- Keyboard w/ Keypad Connector
- 2 Serial/1 Parallel/ 1 Game Port
- Docking Station Connector
- 3 Hour Battery Life
- AC/DC Adapter
- Carrying Bag & Numeric Keypad

MONITORS

14" VGA Color .42	$185
14" Shamrock SVGA .28	235
14" Shamrock Non-Interlaced SVGA .28	265
14" Shamrock Non-Interlaced VESA Stnd	290
15" Shamrock Non-Interlaced Flat Screen	400
17" Toshiba	890

GRAPHICS CARDS

512K SVGA Card Trident	$37
1 MB Trident	55
TSENG ET4000 w/1MB	95
Acumos w/1MB Accelerator	55
Diamond Speedstar 24X	165

MEMORY & FLOPPY

1MB RAM Simm, 70ns	$35
1MB RAM Simm, 60ns	37
256K RAM Simm, 70ns	10
TEAC 1.2 FDD Floppy Disk Drive	50
TEAC 1.44 FDD Floppy Disk Drive	50

HARD DRIVES

40MB	$110
80MB	165
120MB	175
170MB	200
213MB	235
245MB	270
340MB	345
450MB	485

GOVERNMENT & CORPORATE ACCOUNTS WELCOME

EZ COMPUTER

MALVERN
COMMONWEALTH PARK
ARTESIA
COMMONWEALTH
DALLE
MAGNOLIA
GILBERT
BROOKHURST
5 FWY
ORANGETHORPE
91 FWY

SALES
2009 W. COMMONWEALTH AVE. • SUITE B&C
FULLERTON, CA 92633
(714) 447-3955
FAX: (714) 447-3945

SCHOOLS
2021 W. COMMONWEALTH AVE. • SUITE F
FULLERTON, CA 92633
(714) 447-4310

VISA MasterCard

BUSINESS HOURS
Mon. - Fri. 10am - 7pm
Sat. 9am - 5pm

"FINANCING AVAILABLE (on approved credit)" • * Prices Based on Cash Transactions * • (Prices subject to change w/out notice.)

ALL SYSTEMS ARE MANUFACTURED W/BRAND NEW COMPONENTS!

High-Tech Pens For Law Enforcement

Orange County Sheriff's Department Initiates Move To Paperless Environment In The Field As Well As The Office With Pen-Based Computers.

BY JOHN WOLCOTT

RESOURCES:

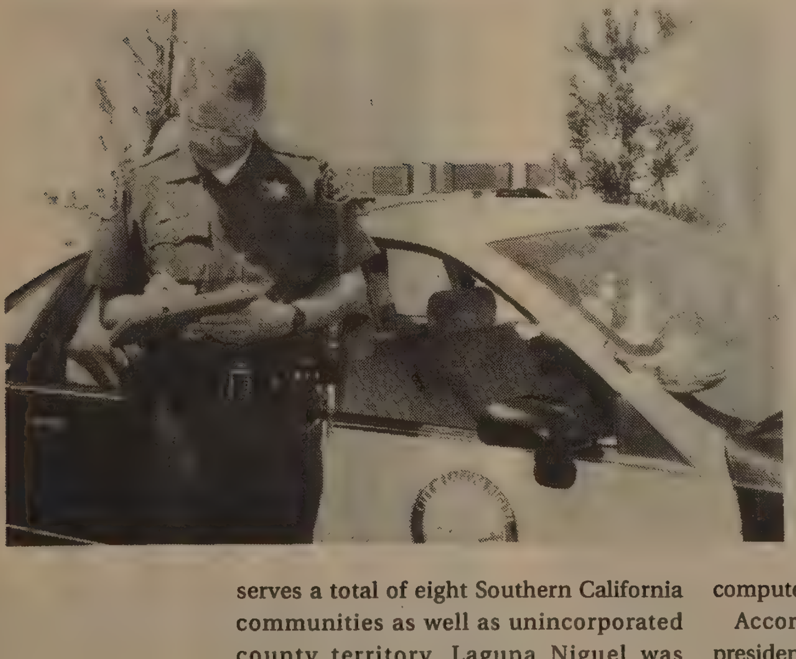
PenUltimate, Inc.
19000 MacArthur Blvd., Ste. 620
Irvine, CA 92715
(714)476-6360

GRiD Systems Corp.
47211 Lakeview Blvd.
Fremont, CA 94538

Toshiba America Information Systems
9740 Irvine Blvd.
Irvine, CA 92718

Building on their belief that staying on the cutting edge of technology is an important factor in providing top-notch police services, the Orange County Sheriff's Department is again breaking new ground. A pilot program to test the feasibility of using notebook/pen computers in the field has been launched in Laguna Niguel.

The Sheriff's Department was the first law-enforcement agency in California to use a specialized fingerprinting system, Cal-ID, the first to have a DNA laboratory, and the first to install video cameras in patrol cars. They are not the first to test the use of computers on patrol. Previous trials within other departments have shown limited success, but the Orange County Sheriff's Department is optimistic that the combination of well-written software and portable computers will enhance officer performance in the field.



The Orange County Sheriff's Department serves a total of eight Southern California communities as well as unincorporated county territory. Laguna Niguel was selected as their test site for pen computing by officials because of a relatively small community population (fifty thousand) and varied geographical terrain. PenUltimate and several hardware manufacturers have teamed up in providing customized software and hardware to enable officers more "on the street" time and less clerical duty.

The current system requires officers to spend approximately one hour per day filling out detailed daily activity logs, initial crime reports, and follow-up reports. This is regularly followed by editing and review by departmental supervisors, distribution of multiple copies of the edited reports to various divisions, and permanent record filing.

Pen computing is expected to streamline this process. The Computerized Officer Productivity System (C.O.P.S.) is a complete package of customized software, from PenUltimate, and specially designed pen-based computers created to easily integrate report information with police databases. The software is Windows-based and provides a familiar, easy-to-use graphical environment. Officers use a pen to point at the function for entry and may choose from a prepared list of data or enter their own. Several pen computers are being tested to determine durability and ease of use, including 386-based units from GRid and Toshiba. They will average in price around $2,400 for the department and weigh in at approximately 5lbs.

The pilot program will entail use of the pen computers by officers to store software generated reports stored on floppy disk; to be transferred to a main Sheriff's Substation computer at the end of daily shifts. This information can then be easily edited on a word processor and distributed by computer network within the station.

According to Larry Taylor, senior vice president at PenUltimate, the trial program will not include all of the features expected to be incorporated into the C.O.P.S. system. Larry commented, "This is just the first step in the natural progression of features." He expects that once field officers become familiar with the use of the computers for report entry, communication by telephone modem and/or radio modem from the field will speed transfer of useful information on a real time basis. For example, when an officer enters a suspect's description information into his report, this could be made immediately available to other field officers by transmitting back to the station's network and being rebroadcast to other officers and made available for crime analysis in matching to other related crimes.

Many law-enforcement agencies across the country have inquired at PenUltimate about the C.O.P.S. system and will be carefully scrutinizing the Orange County Sheriff's pilot program. If all goes well, it is anticipated that the C.O.P.S. system will become the standard for many agencies. Paul Mondschein, president and chief executive officer at PenUltimate commented, "We will be able to customize the C.O.P.S. software for any agency's individual and specialized needs."

Sheriff's Department officials are impressed with the system, but are awaiting reaction from the Sheriff's Deputies "in the trenches" before making any purchase decisions. "We're not just going to run out and buy machines. There will be some tests to see if it saves time." Lt. Joe Davis said.

At a recent press conference, held by the Orange County Sheriff's Department, Laguna Niguel city officials, and PenUltimate, Inc., the pilot program was officially announced. Chief of Police Services for Laguna Niguel, Lt. Davis was asked pointedly if C.O.P.S. will eliminate jobs within the department. He answered, "I do not expect that any jobs will be eliminated. Rather, it will be a shift of job duties for the current employees."

Time will tell whether the departmental staff is able to adapt to this shift of job functions. Sources in the department believe this move to a paperless environment could result in machines replacing people. The use of portable computers will most certainly provide more accurate reports from deputies, as well as speeding report entry to departmental records. ■

Copyright © 1993 by John Wolcott. All rights reserved. John Wolcott is a free-lance writer for computer editorial and hardware and software documentation.

SOLID-STATE
MASS STORAGE
SYSTEM
SUNDISK

Evolv The HP Way

ing

Almost Fifty-Five Years After Its Legendary Beginnings In Bill And Dave's Garage, Hewlett-Packard Finds New Levels Of Technological Innovation And Customer Responsiveness

By Michael Robin • Photos: Paul Winternitz

Founded in 1938 by Dave Packard and Bill Hewlett in Packard's garage, Hewlett-Packard Company may be the original Silicon Valley "garage start-up." After decades of growth and success, in a wide range of technology fields including electronic instruments, measurement devices, minicomputers, workstations, and calculators, HP appeared, a few years ago, to be heading in the direction of its major competitors, IBM and DEC—namely, into disarray and decline.

However, the founders had other plans. Bill Hewlett, who retired as vice chairman of the board of directors in 1987, and Dave Packard, current chairman of the board, stepped back in to reinvigorate the company and reassert a style of organization captured in the term "The HP way."

The product that best symbolizes HP's redirection is the printer. Until the early 1980s, Hewlett-Packard largely sold printers as peripheral, or secondary, devices to its minicomputer systems. That all changed under the leadership of Richard Hackborn. Taking advantage of a corporate structure that allowed him to try something new, Hackborn built a very independent printer division in Boise, Idaho. Recent studies show that printers now account for 40% of HP's income before interest and taxes, and they are clearly an industry leader in the desktop laser and inkjet printer markets. Likewise, HP has experienced impressive growth in the workstation market, moving ahead of DEC to become No. 2, after Sun Microsystems.

Revitalization in the desktop PC market has been slower, with the benefits only now beginning to show. According to recent market research by BIS Strategic Decisions, shipments of HP's PC products in 1993 have increased about 130% over the same period a year ago, moving HP into the top ten PC vendors worldwide.

Overall, HP is one of the few large computer companies whose total number of employees has actually been growing—from 85,000 in 1985, to 91,500 in 1990, and reaching 93,800 at the close of its 1992 fiscal year.

Helping to lead this growth is Boris Elisman, manager of product marketing and programs for desktop personal computers. Still in his early thirties, he is part of the new generation of leadership at HP. Before joining HP, Elisman was an engineer at AT&T Bell Labs designing ISDN circuitry. He came to California to attend business school and took a summer job in the Personal Computing Division at HP. That was four years ago, and he stayed on. "This is back when we were not successful in PCs, now we are," Elisman says with a grin. "I went through the whole gamut of not being a successful PC player to the pinnacle of where we are today—at the top and growing."

Elisman also points out that his combination of technical and marketing skills is not rare at HP. "People like that are drawn to HP because HP is known as a very good engineering company. One of the things it lacked in the past was marketing. That has been changing over the last couple of years and we are doing a lot better. For me, I like marketing for the closeness it gets me to the customer and also the business aspects of marketing. But at heart I am still an engineer—I like things, I like technology. I don't want to crunch numbers or something like that."

We met with Elisman on a warm June day in Sunnyvale. True to the HP way of open communication, there are few private offices; after a short search, we found a meeting table off to the side for this interview.

During the 1980s, HP turned itself around and has enjoyed renewed success and growth. What did you change?

There are certain basics to the personal computing industry: You have to have the right product, at the right price, at the right time.

If you look at us back in 1989, or early 1990, we certainly didn't have the right price. At that time, we didn't have the best products. And our product introductions were lagging behind other industry leaders, such as Compaq.

We've had new management and reorganization in the '89–'90 time frame. The management focused on those three basics, without taking away one of the things HP has always done and really been known for—high-quality products.

The whole strategy started about three years ago, but it takes a while to implement it. It really didn't start to be felt until the summer of 1992, when we

> *"The HP way, when you really come down to it, is respecting the integrity of the individual."*
> *—Bill Hewlett, 1987*

Computerlane

PROVIDING YOU WITH GREAT SERVICE SINCE 1983!

818-884-8644
213-625-7325
fax: 818-884-8253

7500 Topanga Canyon Blvd.
Canoga Park, CA 91303

HOURS: Mon-Fri :9-6
Sat:10-5

Exports Available

- Corporate Accounts Welcome.
- Call for Discounts on Volume and Consultant Orders.

Prices Reflect 5% Cash Discount

Compaq is a Registered Trademark of Compaq. IBM is a Registered Trademark of International Business Machines. Prices subject to change without notice. Quantities are limited

CELEBRATING OUR

10th Anniversary

FOR A LIMITED TIME ONLY

BECOME A MEMBER OF COMPUTERLANE CLUB AND BUY EVERYTHING AT OUR COST PLUS 5%

MEMBERSHIP FEE IS:

$35.00 A YEAR FOR INDIVIDUALS

$55.00 A YEAR FOR CORPORATIONS

Membership is limited. Call store for details.

** COMPETITOR'S PRODUCTS MUST BE IN STOCK. DOES NOT INCLUDE HP OR APPLE PRODUCTS

We Will Beat Any Verified Brand Name Price!**

COMPAQ Contura Notebook 4/25, 4/120 Win MEMBERSHIP PRICE $1895 Reg. Sale Price $1995	**NEC CD ROM 74** MEMBERSHIP PRICE $515 Reg. Sale Price $680
IBM Valuepoint M30 486 DX33 4/120M MEMBERSHIP PRICE $1550 Reg. Sale Price $1725	**MS OFFICE For Windows** ON CD ROM MEMBERSHIP PRICE $520 Reg. Sale Price $565

introduced the 486U PC series. Ever since then it has been up in terms of customer satisfaction and sales.

Other older computer companies, such as IBM, have not been able to balance entering the PC market and remaining in mainframe or minicomputer markets. What is HP doing that is different?

It's a different strategy. IBM compromised on their desktops so that the desktops would not hurt the sales of their minicomputers and workstations.

One of the things that we leverage off heavily, as a PC business, is the Hewlett-Packard name. Hewlett-Packard has been a company for fifty-four years. The studies that we've done show that just saying "Hewlett-Packard" means certain things to people—great products, well-designed and -engineered products, great quality or reliability. One of the things we are trying to impress upon our customers now, is that it means all those things at a *reasonable price*—not at the high price we were two or three years ago.

Even though we sell RISC-based workstations, we are also one of the first vendors to introduce a Pentium-based PC, both server and desktop. We know that if we don't offer the proper product to our customers, our competitors will. We would rather cannibalize from ourselves than have the competitor take the customer away. It is really giving customers a choice.

Who have those customers been?

We primarily sell to corporate customers, both large businesses and mid-sized businesses. It spans the gamut from insurance companies, financial institutions, manufacturing companies, utilities, and banking. We have had success in many vertical markets.

How much of HP's PC market is in the US?

About 40% of sales are in the US. It is actually growing because the US economy is doing a lot better than the European economy. HP has a large PC presence in Europe; we are also doing extremely well in Latin America and Asia Pacific. In Mexico, for example, we are the number one PC manufacturer.

How closely connected is the PC division's success tied to other parts of the HP line—servers, minis, etc.?

To a certain extent, quite a bit. If you look back in the '90–'91 time frame, about 30% of our PCs were sold into installations that already had HP 3000 or 9000 minicomputers, and workstations. Today that percentage is smaller, but is still a significant percentage of our sales.

With Pentium, the power of desktop PCs is closing in on the workstation. What is your relationship with the workstation division?

Today we are still managed as separate businesses. We work together to explain our positioning to customers. But they are still interested in selling as many workstations as they can sell, and we are interested in selling as many PCs as we can sell.

Even thought the line is getting hazier and hazier, there are some differences. The application really drives the choice whether they want a UNIX RISC-based environment or they want a DOS- or Windows-based Intel environment. We don't have too many situations where the customer is really confused. If the decision is made to go with a robust custom application in a mission-critical environment on the desktop, they will probably choose a UNIX-based environment, probably choose a RISC-based workstation.

> "Even though we sell RISC-based workstations, we are also one of the first vendors to introduce a Pentium-based PC, both server and desktop. We know that if we don't offer the proper product to our customers, our competitors will. We would rather cannibalize from ourselves than have the competitor take the customer away."

If the decision is to have something that's compatible with tens of thousands of shrink-wrapped applications and offers an installed base of millions, they'll go with an Intel-based solution.

As operating systems such as NeXTSTEP or NT are available on both platforms, the distinction blurs even further.

At the high end, yes. To some extent with NeXTSTEP, to some extent with Windows NT running on RISC-based workstations.

Things like price and installed based will affect their decision as well as need. A Windows NT-based PC will be a much more expensive PC than a Windows 3.1-based PC because you need 16MB of memory, at least a 200MB disk, and you need either a very, very fast 486, like a 486/66, or a Pentium machine to run it adequately. The majority of the market is not there. The majority of people today buy a 486/25 or a 486/33.

HP's announcement of supporting NeXTSTEP on the PC has created new excitement and interest in NeXTSTEP. How important do you see NeXTSTEP being in your product line?

Today it is not very important. We do have some customers that are very interested in NeXTSTEP, and we are working with NeXT to make sure that our PCs are fully compatible with all the proper drivers, etc. NeXT is working with us because they are interested in their system being fully compatible with our PCs. But today there is not an overwhelming flow of customers, it is more like a trickle.

The future? That all depends on what is going to happen with Windows NT, with Solaris, with NeXTSTEP, with OS/2... NeXTSTEP, given where they are in the market today, is the underdog.

How close do you work with the PC software division?

Very close, they sit right next door to us. As an overview of structure, there is a desktop PC division; a server PC division; a division for mobile appliances; and a PC networking division, which does hubs, routers, network infrastructure products; and a PC software division, which develops software for networking products such as OpenView and develops products for PCs such as Dash Board and NewWave. It also develops software for mobile devices for transferring files between PCs and mobile devices.

Software is really a glue that unites all of these divisions together. These five divisions report to one general manager, so there is a person who is responsible for the overall business. All of them are sold by the same sales force, all of them are trained by the same people—basically a very cohesive sales and marketing team.

There is definitely coordination of the development end as well. But still, every division is responsible for their own profit and loss. If they need to develop products that will cannibalize [another division], that is what they have to do. And it will be supported by the upper management.

Let's look at the technology, at the PC. Using the desktop as the linchpin, HP is building in connectivity across its systems, for instance, to servers and minis as well as to new mobile computing devices.

HP is bringing PCMCIA slots to the desktop and recently introduced a wireless infrared (IR) technology. Is IR technology designed primarily for moving small files, while larger chunks of information will best be transferred on PCMCIA cards?

That is the way we are positioning it today—if you need to transfer an individual file or several smaller files, you should use the infrared link. But if you want to move a megabyte of information or to copy 10MB of your disk, it would be much, much faster to do it through the PCMCIA technology.

The infrared, at 115K with a range of about 18", is a standard feature on our Vectra XM PCs. It is very inexpensive to include. We are not asking customers who don't want that feature to pay more for it.

The PCMCIA accessory, costing about $250, is an option that you can buy with our Vectra Ms, XMs, and other PCs. That will allow you to easily transfer large files.

Is this the start of the IR? We will certainly try to improve the transfer speed. Right now, we are trying to make the SIR, serial infrared link, a standard. We have had companies such as Sun and Intel sign up.

How is it being licensed?

The license policy is a one-time fee of $5000 for the technology. You don't pay royalty on a per-unit basis. We want to make this a standard. We want people to start incorporating it into printers, mobile devices, desktop PCs, everywhere.

What is your vision for PCMCIA?

The PCMCIA accessory that we offer gives you access to two Type II slots or one Type III. Kitty Hawk, our small disk drive device, is a Type III device.

Let me give you a couple of scenarios.

One option with notebook PCs is to use them with a docking station—you come in, you plug your PC into the station, and it gives you access to a monitor.

Another option is to take your operating environment from your mobile device, put it into your PC, and use your PC. Basically, what you can do is remove the Kitty Hawk drive from a mobile device, put it in your PC, and it's a logical drive in your PC. You now have the power of the PC with graphics, etc. But the operating environment is exactly your mobile PC's operating environment, you don't have to change anything.

"The application really drives the choice. If the decision is made to go with a robust custom application in a mission-critical environment on the desktop, they will probably choose a UNIX-based environment, probably choose a RISC-based workstation.

"If the decision is to have something that's compatible with tens of thousands of shrink-wrapped applications and offers an installed base of millions, they'll go with an Intel-based solution."

What sort of connectivity is being built into the desktop going upwards toward the server?

We are evolving to incorporating the Ethernet 10BaseT technology right on the motherboard. Today you can buy three of our PC platforms with integrated 10BaseT connection—the HP Vectra NI, MI, and XM. This is just standard. In future platforms, for example the Pentium-based XP, we'll also incorporate this on the motherboard. This gives you faster throughput, but also much less expensive connection than adding in a card.

If you look at things a year or a year and a half from now, we are also thinking about incorporating the 100BaseVG, which is 100MB/per second technology, also into our desktops.

On June 17 of this year, the EPA's Energy Star program was formally launched. Although it's a voluntary program, to meet these new standards PCs, monitors, and printers must be capable of entering a low-power state of under 30 watts during inactivity or sleep mode. The EPA estimates that users of Energy Star compliant computers will save $2 billion annually. What are HP's plans?

HP will have most of its PCs Energy Star compliant. There are some PCs, such as the Pentium-based PCs or 486/66 PCs, that will not be. They just consume too much power, or the chips themselves consume too much power.

The other PCs, like the 25MHz-based PCs, 486/25, 486/33SX, all will be; that is in normal operational mode, even without the power down. In normal operational mode they will consume less than 30 watts of power, which should save our customers a lot of money.

We are also developing a monitor that will be Energy Star compliant. This will be a big 21", 1600 x 1280 monitor that will have a power down mode and will be Energy Star compliant.

Beyond Energy Star, a month ago HP announced we no longer use CFCs in our manufacturing process throughout the whole company. That program cost us something on the order of $60 million, but the benefits definitely outweigh the costs. Some additional things: Our PCs don't use any paints—neither the plastic nor packaging are painted. Also, the RFI shielding can be more easily stripped away so that both the metal and the plastic can be recycled. We are trying to design the whole "green PC" concept as a standard feature.

Part of the turnaround you've accomplished has been through maintaining quality, lowering prices, and meeting customers' needs. What's next? Is there something on the horizon?

The challenge is not to get cocky, basically not to rest on our laurels, just keep listening to customers. Keep designing PCs that meet their needs—at the right time, at the right price.

We are going to be incorporating more networking features into our PCs, to allow easy connectivity to networks. We are also going to be incorporating more of this technology that we call business communication, which allows businesses to share information. You've seen some of this with the recent introductions [such as SIR] for sharing infor-

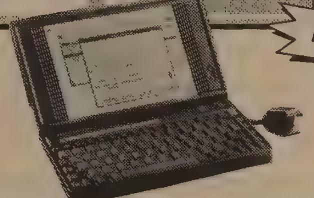
NAMES YOU CAN COUNT ON

HEWLETT PACKARD
Full Line Authorized Dealer

day tech

YOUR PROMINENT HP DEALER IN SOUTHERN CALIFORNIA SINCE 1983

- CUSTOMER SATISFACTION IS #1
- HP PRODUCTS ON DEMO
- TRAINED EMPLOYEES TO ANSWER ALL YOUR QUESTIONS
- 24 HOURS TURNAROUND ON ALL LASERJET REPAIRS
- ON-SITE/IN-HOUSE REPAIRS AVAILABLE
- TOP DOLLARS PAID FOR USED LASERJET PRINTERS
- PRODUCTS IN STOCK!
- EDUCATIONAL DISCOUNTS FOR ALL FACULTY & STAFF
- 30 DAY FREE PRODUCT EVALUATION PROGRAMS
- TRADE IN & UPGRADE PROGRAMS
- FREE DROPSHIP AVAILABLE
- 100% CUSTOMER SATISFACTION GUARANTEED ON ALL HP PRODUCTS FOR 30 DAYS



NEW!

OMNIBOOK SUBNOTEBOOK COMPUTER

- 2.88 lbs w/flash disc
- 2.99 lbs w/hard disc
- 386SX LV CPU
- 640X480 VGA, 9" diagonal monitor
- 16 shades gray
- Battery charges less than 1 1/2 hrs.
- Battery life up to 5 hrs. w/HD, 9 hrs. w/ flash disc
- Recharger battery pack or 4 AA batteries

Built In Software:

- LapLink remote access
- Phonebook, appt. book, financial calc.
- MS Word, MS Excel 4.0, MS Windows, MS DOS
- 2MB Ram
- Serial, Parallel
- Automatically parks hard drive when dropped accidentally

CALL & WE CAN FAX YOU MORE INFO

NEW!

HP PALMTOP 100LX COMPUTER

Perfect size computer
for people who need to travel lite
& keep in touch with their PC

PC Power
- 2MB ROM, 1MB Ram
- 80x25 LCD screen w/ zoom feature
- PCMCIA Ver. 2.0 slot
- 5MB, 10MB optional flash disc

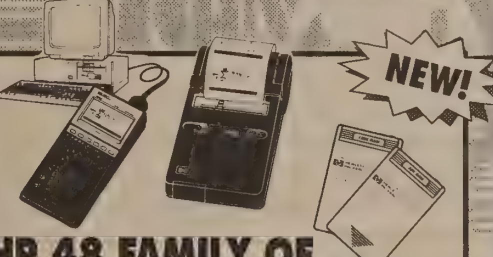
Portability & Ease of Use
- Checkbook size (6.3"x3.4"x1"), 11oz w/batteries
- 1 key access w/ instant-on feature

Built-In ROM Applications
- Lotus 1-2-3 Rel 2.4
- HP financial calculator, phone book, appointment book, memo editor, etc.

Communications
- Built-in CC: mail
- 9 Pin serial or Infra Red
- Optional connectivity pack
- Terminal emul., X,Y,Z - modem

ACCESSORIES:

HP P/N	95/100LX DESCRIPTION	SALE
F1003A	512K Ram LX	$270
F1004A	1MB Ram for 95/100LX	$520
F1005A	Dictionary/Thesaurus	$129
F1011A	AC/DC Adapter	$35
F1012A	5MB Flash Disc Card	$480
F1021A	100LX Connectivity Pack	$120



NEW!

HP 48 FAMILY OF SCIENTIFIC CALCULATORS

HP 48S	$169
HP 48SX	$275
HP 48G	$135
HP 48GX	$280

NEW!

HP 48SX APPLICATION PACS

Electrical Eng. Pac	$99.95
General Chem. Pac	$99.95
Mechanical Eng. Pac	$99.95
Mathematics Pac	$99.95
Physics Pac	$99.95
Statistics Pac	$99.95
Calculus Pac	$99.95
Celestial Navigation Pac	$99.95
Solve Equation Library	$80.00
128K RAM Card	$125.00
Serial Interface Kit	$48.00

day tech

All International Orders Are Accepted
We Ship Federal Express or DHL

COMPUTER CENTER

6314 Hollywood Blvd. (at Vine), Los Angeles, CA 90028

(213) 463-3001
(800) 447-3331
Fax (213) 469-7225

HEWLETT PACKARD
Authorized Dealer
and Service Center

Free Parking In Rear with Validation. Prices Subject to Change Without Notice mation between the desktop and mobile PCs. In the future we will also be introducing technologies that will allow people to easily share voice mail, phone, and fax information.

During July, HP is introducing a new, lower-end line, the HP VL.

Yes, the HP Vectra VL. It's all 486s—25SX, 33DX, DX2.

This is still focused on a corporate customer, but a corporate customer that does not desire all the features—such as networking, security, end-user diagnostics—and is not willing to pay for them. They want a high-quality PC with good performance at a low price. That is the primary target customer.

Right now it's not as easy to buy our PCs for the home user because we aren't in the Price Club, K Mart, or channels where a lot of the end-users buy. We are in computer dealer stores. (In fact, stores that advertise in *MicroTimes* carry our PCs and will offer the new VL series.)

What is the upgrade path to the Pentium for your 486s?

Some of our 486s like the N/NI, M/MI, and XM series are upgradable to the Pentium OverDrive technology; this is the P24T. They are not upgradable to the full 64-bit Pentium. The XP will be a full 64-bit Pentium PC.

There is a lot of confusion because a lot of manufacturers say, "Yeah, we're upgradable to Pentium." What they don't say is upgradable to Pentium OverDrive, and not Pentium. The end-users may not realize the differences. The Pentium OverDrive, when and if it comes out, will be a technology that you can chip upgrade from a 486 PC, just with a chip.

For the full Pentium you really have to have a different bus architecture. It is a 64-bit architecture versus 32. There are several manufacturers that do that, but through a full microprocessor card which has the memory controller, etc. It will actually be very expensive to upgrade to a full Pentium. When you buy a PC today, you are probably not going to upgrade for probably three years. Three years from now you will be able to buy a Pentium PC for what we pay for a typical 486 today. A lot of times it's a comfortable feeling; it's nice to know that you can upgrade if you want to. But what happens in reality is because of the price performance you buy a brand new PC—the video is ten times better than the one you bought three years ago, the drives are ten times faster, and the price is similar to what you would pay for an upgrade card anyway. So you would just go for a new PC.

"The HP Way" is highly respected, yet there are probably not many people who could describe what it is, how people learn it. What does it mean on a daily or practical level?

HP Way means certain things. The things that come to mind, for me, are things like respect for the individual, management by objective, concern for the community, things of that sort.

How do you learn the HP Way? Primarily through experience and osmosis. HP is a company that definitely has a certain culture which embodies those things that I talked about, such as respect for the individual. The people that tend to be managing at HP are the ones that follow the HP way. So that the managers that I have, the managers they have, follow things like management by objective. You don't have a person telling you how to do every little step of the business. You have an objective, then it is up to you, with coaching from your manager, to reach that objective. What this really means is that you get the most creativity from your people because there are no predisposed concepts that you impose down onto them.

It's management by walking around, by keeping in touch from the highest levels down—from vice presidents or executive vice presidents down to immediate supervisors walking around talking to people to keep the pulse of what is going on in the business.

It's an open door policy. There are no doors in HP cubicles. And if you go to [CEO] Lew Platt's office, who is managing a $20 billion business, you'll see there are no doors even on his office. The open door policy means that you can go in, address your concerns or needs with any of HP's managers, and they'll be willing to listen to you.

It is definitely evolving, because the business environment makes it so that we need to evolve if we want to be successful. But I think the core beliefs are still there. ■

HEWLETT PACKARD *LaserJet 4*

IN STOCK!

- 600 dpi print quality at a 300 dpi price
- Resolution Enhancement technology and microfine toner for superior output quality
- Fast 8-ppm printing for complex documents
- Outstanding language and platform flexibility
- Full network capabilities (with options)
- Ideal for Windows environment
- Easy to use

Hewlett-Packard
DeskJet 550C Printer

$ 659

- 300-dpi, laser-quality black and color printing
- Convenient color printing with two ink cartridges
- Prints on plain paper, transparencies, special paper, executive-size paper and envelopes
- 3-year limited warranty

Hewlett-Packard
FAX-310

$ 1219

- Advanced features and plain-paper for one low price
- No more flimsy thermal faxes to re-copy
- Lower cost per page than thermal fax machines
- Better output quality than thermal fax machines
- One-year warranty
- HP quality and reliability

HP Vectra 486 PC Series

- 32-bit local bus with graphics accelerators provides world's fastest integrated video, even in high-resolution modes
- Complete Intel486 PC line includes DX2 speed-doubling technology, integrated coprocessor, and internal cache

Prices subject to change without notice ! Please call for latest pricing !

DJ 500/DeskWriter	$339/$311
Deskjet 500C/DeskWriterC	$489
Deskjet/Writer 550C	$659
Deskjet Portable	**$300
LaserJet IIp+	$739
LaserJet IIIp	$819
LaserJet 4	$Call!
LaserJet 4m	$Call!
LaserJet Fax	$850
LaserJet 4L/4ML	$Call
ScanJet IIp w/PC-AT intf	$806
ScanJet IIp f/Macintosh	$684
ScanJet IIc w/PC-AT intf	$1309
ScanJet IIc f/Mac	$1219
LaserJet 4si	Best Price !
LaserJet 4MX	Call for Price!
PaintJet Color Plotter/Ser	$685
PaintJet Color Plotter/Par	$685
PainJet XL300	Too low to print!
PainJet XL300 w/PS	$Call!
QuietJet 132-Col. Inkjet Ptr.	$529
7440a Color Graphic Plotr	$868
7475a Color Graph. Plotr	$1241
7550a Color Graph. Plotr	$2797
DraftPro Plotter	$2446
DraftPro DXL	$2962
DraftPro EXL	$3864
DraftMaster SX +	$4835
DraftMaster RX +	$6119
DraftMaster MX +	$7086
DesignJet 600, D-size	$5475
DesignJet 600, E-size	$6442
Vectra 486/25u 4/120,win.	$2213
Vectra 486/33u 4/120,win.	$2533
Vectra 486/50u 4/240,win.	$3033
Vectra 486/66u 4/240,win.	$3253

** Price reflects $75 rebate from HP on the DeskJet Portable when purchased with 1 DJ-Portable Accessory. Ask about HP's "Here, There, Everywhere " Promotion !

Free Gift with every HP Purchase !!

We will match any advertised price in this publication !!

HEWLETT PACKARD
Authorized Dealer & Service Center

Better Domain, Inc.
8919 Reseda Blvd., Northridge, CA 91324

All prices reflect 3% cash discount.
Lease financing available. Call for details.
Tel:(818) 886-5511 Fax:(818) 886-5583

Alphanumeric International

Authorized Sales and Service Dealer for...

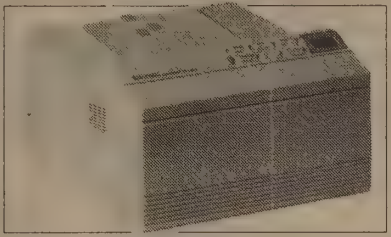
IBM · HEWLETT PACKARD · 3Com · intel · DEC · NEC · BERNOULLI · SILICON GRAPHICS · 3M DATA PRODUCTS · AST · EPSON · Apple · TOSHIBA · COMPAQ · WYSE · EVEREX · OKIDATA · Seagate · SHARP

Need HEWLETT PACKARD Products? It's Easy! Call...

HEWLETT PACKARD
Authorized Dealer

ALPHANUMERIC

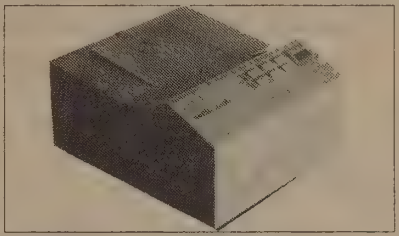
CALL FOR ALL Vectra Prices



HP LaserJet IIp Plus with Toner

$740

- The most affordable HP LaserJet Printer
- 300dpi print quality
- Prints 4 pages per minute

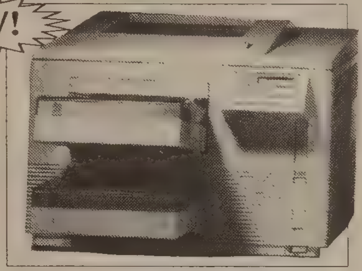


HP LaserJet IIIP with Toner

$835

- Superior 300dpi print quality with HP-Patented resolution enhancement technology
- Industry-standard PCL5
- 8 built-in scalable typefaces
- Prints 4 pages per minute

NEW!



HP LaserJet 4Si Printer

$CALL

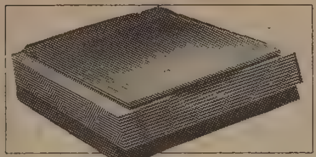
- 17-page-per-minute engine speed
- True 600 x 600 dpi print quality, with Resolution Enhancement technology and microfine toner
- HP Bi-Tronics (high speed, bi-directional parallel) and two modular I/O (MIO) expansion slots
- Optional HP JetDirect network cards allow users on multiple networks to transparently print on a single printer
- 2MB RAM standard

HP LaserJet 4Si MX Printer

$CALL

NEW!

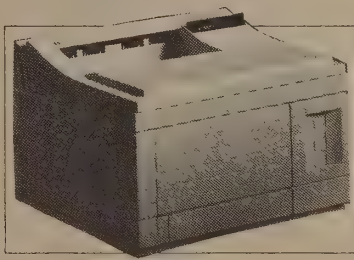
- All the capabilities of the HP LaserJet 4Si printer, plus built-in connectivities for multiple network operating systems and multiple computer platforms
- Automatic switching between three built-in interfaces (Ethernet, LocalTalk, HP Bi-Tronics)
- 10MB RAM standard, expandable to 26MB with affordable SIMM modules in two available slots



HP ScanJet IIC

$1259

- Ideal for both monochrome and color graphics and text
- 400 dpi high quality resolution
- Enhanced OCR accuracy with HP Accurpage technology

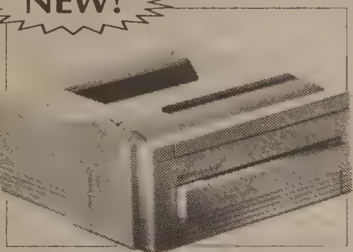


HP LaserJet 4 w/Toner .... $CALL

HP LaserJet 4M w/Toner .... $CALL

- 600 dpi print quality at a 300 dpi price
- Fast 8-ppm printing for complex documents
- Full network capabilities (w/options)
- Automatic Language switching between PostScript Level 2 and enhanced PCL5
- Easy to use

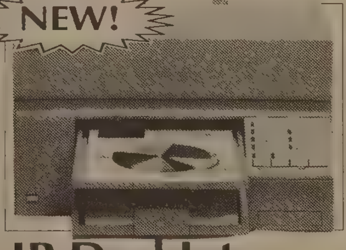
NEW!



HP LaserJet 4L $CALL

- 4-ppm with 26 scalable typefaces
- 300 dpi with resolution enhancement technology and microfine toner
- Genuine enhanced PCL5
- Memory enhancement technology effectively doubles your 1MB printer memory
- Very affordable

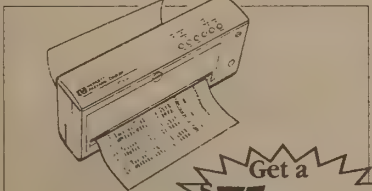
NEW!



HP DeskJet 1200C

$CALL

- Clear crisp text, 600 x 300 dpi, 300 dpi color
- Text prints at 6 pages per minute
- Color prints at 1-2 minutes per page
- Prints on plain paper (copier or bond), glossy paper, transparency film, plus envelopes and labels
- Adds rich, vibrant color to enhance your documents and overheads
- Over 16 million colors available



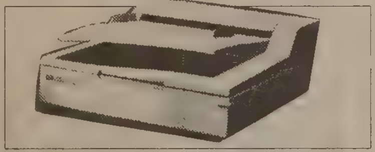
Get a $75 Rebate with Purchase of Accessories

HP DeskJet Portable Printer

$290

After Rebate

- 300 dpi portable printing for both text and graphics (DOS and Windows)
- Fast, up to 3 pages per minute
- Small, lightweight and easy to carry



HP ScanJet IIP w/IBM Interface $689

- 300 dpi optical resolution enhanced image quality
- 256 grayscale levels provide high quality reproduction of photographs and illustrations
- Print-path calibration optimizes the quality of your final output

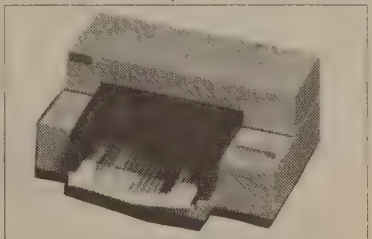
HP DeskJet 500C $469

- 300 dpi inkjet technology provides printing in black or in color
- Affordable price
- Quiet operation

HP DeskWriter 550C F/MAC $669

HP DeskJet 500 $349

- Laser quality printing at dot matrix price for affordability
- Compact desktop design
- Three-year limited warranty



HP DeskJet 550C $669

- Dual ink cartridges
- Support laser-quality
- Plain-paper printing in black or color w/o changing cartridges

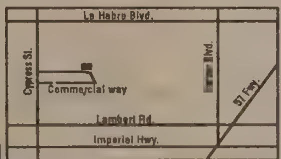
HP DeskWriter C F/MAC $469

HP DeskWriter F/MAC $349

Alphanumeric International

450 Commercial Way
La Habra, CA 90631
310-690-2222
Fax 310-690-1212

Open MON-FRI 8:15am-5:15pm. SAT. 10am-4pm



PRICES ARE CASH DISCOUNT ONLY.
Corporate & Aerospace purchase orders accepted
Prices & availability are subject to change without notice.

Ask for your copy of the ACP Computer Hotline

Upgrade to MultiMedia at ACP SuperStore!

Hard Drives

CONNER

Your complete Conner Source..."
170Mb IDE, drive adaptor, mount hdwe, instructs, preloaded Microsoft software...

- Windows 3.1 • MS-DOS 5.0
- Works for Windows 2.0
- Publisher • Money
- Central Point Anti-Virus

ACP Price **$279.95** Limited Offer

more Conner...

CP3000	42Mb	3.5"	28ms	IDE	Call
CP30084	84Mb	3.5"	19ms	IDE	Call
CP30104	120Mb	3.5"	19ms	IDE	Call
CP30204	212Mb	3.5"	12ms	IDE	Call
CP30254	250Mb	3.5"	12ms	IDE	Call
CP30174E	170Mb	3.5"	12ms	IDE	Call

Western Digital

High performance "Caviar" series with 1" height, Cache Flow™ and 32K buffer.

AC2120	120Mb	1"	3.5"	13ms	IDE	Call
AC1190	170Mb	1"	3.5"	13ms	IDE	Call
AC2200	212Mb	1"	3.5"	13ms	IDE	Call
AC2250	250Mb	1"	3.5"	13ms	IDE	Call
AC2340	340Mb	1"	3.5"	13ms	IDE	Call

Hard Drive Specials

Seagate ST3283 249Mb IDE	499.95
Samsung 100Mb IDE	249.95

Call for Quantum, Micropolis, Seagate. Controllers from Ultrastor, Always, WD etc.

Backups

Colorado

DJ10 120Mb Tape Drive internal	149
DJ20 250Mb Tape Drive internal	229
Trakker 120/250 Tape Backup	349/419
PowerTape 2Gb/4Gb	999/1599

Syquest (with cartridge)

44Mb kit SQ555, SQ400, SQ01(16 bit)	419
44Mb external	499
88Mb kit SQ5110, SQ800, SQ01(16 bit)	529
88Mb external	629

GrassRoots Floptical

Floptical 21 Mb int/ext	Call

Floppy Disk Drives

Toshiba

ND04DG	360K	5.25"	HH	PC/XT	59
ND08DEG	1.2Mb	5.25"	HH	PC/AT	72
ND3561GR	1.44Mb	3.5"	HH	w/AT Kit	72

ACP

1.2 Mb 5.25"	66
1.44Mb 3.5"	67
2.88Mb 3.5"	149
All in One 3.5/5.25	149

Input Devices

Advanced	
3-button Mouse	**15**
101 Keyboard	**58**
Mouse+Windows	**88**
Microsoft	
Serial Mouse	**69**
Ballpoint	**98**
Ballpt+Windows	**148**
Microspeed	
PC Trac	**78**
PC Trac bus vers	**88**
Logitech	
Mouseman	**75**
Mouse (OEM)	**35**
Cordless Mouse	**88**
Trackman	**78**
Trackman Port.	**94**
Scanman 32	**128**
Scanman 256	**258**
CH Products	
FlightStick	**49**
Joystick MachIII	**call**

IBM Compatible Cards

Advanced	
Monochrome	**38**
Color Card	**48**
EGA Card	**48**
Windows	
1MbAccelerator	**149**
Interface	
Parallel Card	**29**
Serial Card	**35**
Multi I/O	**59**
IDE 16-bit	**19**
IDE Multi I/O	**69**
VGA	
512K, 800x600	**53**
512K, 1024x768	**68**
1Mb, 1024x768	**88**
Modems	
2400bps internal.	**39**
2400bps external.	**69**
Memory	
AT 0-8Mb(simm)	**99**
XT 0-8Mb(IC's)	**99**

Call for your special needs...

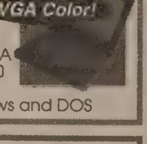
Canon

Authorized Reseller ***NEW LOW PRICES***

BJ10ex/BJ20ex Portables	**Call**
BJ200 Inkjet	**Call**
LBP-4SX/LBP-8SX Laser Printers	**Call**
BJ330 Printer (B/W)	**Call**
BJC 800/BJC 820(Color)	**Call**
BJ 300 BubbleJet(B/W)	**Call**

TEXAS INSTRUMENTS *NEW!*

WinSX/25 Color



2699.

- 486SX-25 MHz • VGA
- 4Mb RAM exps to 20
- 120Mb hard drive
- Pre-installed Windows and DOS

PRACTICAL PERIPHERALS® ***ACP SALE!***

14.4K Fax/Modem $219.95

(external) with 4 On-Line services

Chips and SIMM's

SIMMs	Qty1	12
1Mbx9-80	35	34
1Mbx9-70	36	35
1Mbx8-80	32	31
4Mbx8-70	129	126
4Mbx9-70	139	135

Call for VIDEO RAMS & CACHE RAMS
Over 20,000,000 IC's in-stock including
We Specialize in Memory Modules

Math Coprocessors

Intel	
387SL Mobile	78
80387DX (all)	85
80387SX (all)	78
RapidCAD	248
8087	29
80287-10	89
80287-20	89
Cyrix	
387SX(16-25)	73
387DX(20-33)	88
387DX/40	108
80287(all)	78
Intel Overdrive	
486DX-33	649
486SX-25	489

Memory Upgrades

Notebooks/Laptops

AST PowerExec	4Mb	$178
AST PowerExec	16Mb	1325
Compaq Contura	4Mb	169
Compaq Contura	8Mb	369
Compaq Lite4/25C	4Mb	239
Compaq Lite4/25C	8Mb	399
HP95LX Palmtop	2Mb	call
TI TravelMate3000	2Mb	87
TI TravelMate4000	4Mb	218
Toshiba T4400/6400	4Mb	187
Toshiba T4400/6400	8Mb	388
Zenith Z-Note	2Mb	168

Toshiba T4400/16Mb **$799**
Apple Powerbook 140/170-6Mb **$249**
IBM ThinkPad 2Mb.. **$158** 8Mb.. **$449**

Call for all Notebook Memory Upgrades!

Laser Printers

Call for "0"K Boards

Canon LBP-4,4Lite,4Plus	1Mb	118	2Mb	168
Canon LBP-8III, 8III Plus	2Mb	169	3Mb	199
Compaq PAGEMARQ15/20	8/16Mb	299/599		
Epson ActionLaser II			2Mb	138
HP LJ IIIsi, 4, 4M, XL300	4Mb.	148	8Mb	298
HP LaserJet IIP,III,IIIP,IIID	2Mb.	98	4Mb	158
HP LaserJet II, IID	2Mb.	98	4Mb	158
Panasonic 4410/4430	2Mb	118	4Mb	188
Panasonic 4420/4450i	2Mb	118	4Mb	188
OkiLaser 400	1Mb	78	2Mb	98
TI MicroLaser Turbo, XL	1Mb	69	4Mb	269

Computer Memory Upgrades

AST Bravo 4/33, 486/25	2/8Mb	88/299
Compaq ProLinea 3/25s, 25zs	2/8Mb	88/288
ProLinea 4/25s, 4/33, 4/50	2/8Mb	88/308
IBM ValuePoint except Cxx	4/16Mb	158/578
IBM PS/2 Model 90, 95	2Mb	88

Call for all Computer Memory Upgrades!

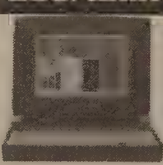
Micronics® Motherboards

486DX/33 ISA	**Call**
486DX2/50 ISA	**Call**
486DX2/66 ISA	**Call**
486DX2/66 VL	**Call**
486DX2/50 VL	**Call**
4000LB Video	**Call**
486DX/33 EISA	**Call**
486DX2/50 EISA	**Call**

Advanced® Motherboards

80286/12MHz	**Call**
386SX/25MHz	**Call**
386DX/40MHz	**Call**
486SX/25MHz	**Call**
486DX/33MHz	**Call**
486DX/50MHz	**Call**
486DX2/50MHz	**Call**
486DX2/66MHz	**Call**

PC Special **286/12Mhz $269**



Call ACP for Notebook Deals!

COMPAQ

ProLinea 3s/25 w/84Mb	**Call**
ProLinea 4/25s w/240Mb	**Call**
Contura 3/20 w/84Mb	**Call**
Contura 3/25 w/84Mb	**Call**
Contura 3/25 w/120Mb	**Call**
Contura 3/25c w/84Mb	**Call**
Contura 3/25c w/120Mb	**Call**
Compaq LTE Lite/25c w/84Mb	**Call**
Compaq LTE Lite/25c w/120Mb	**Call**

TOSHIBA®

T1900C Satellite 60Mb	**Call**
T1850 Satellite 80/120Mb	**Call**
T1850C Satellite w/120Mb Color	**Call**
T6600SL MultiMedia	**Call**
T4400SX LCD/Plasma 120Mb	**Call**
T4400C Color 120Mb	**Call**
T4500 80/120Mb	**Call**
T4500C Color 120Mb	**Call**
T6400DXC Color 200Mb	**Call**

Advanced Computers

486 High Performance CPU's • Plus MultiMedia Upgrades

486 SuperVGA System

Includes:

- 486DX/33 w/256k Cache
- 4Mb RAM
- 1Mb SVGA Card
- 120Mb HardDrive
- 1.2Mb 5.25" Floppy
- 1.44Mb 3.5" Floppy
- IDE Controller
- 101 Keyboard
- 14" SuperVGA .28 Color Monitor and more!

ACP's Sale Price **$1399** photo may vary

Call for MiniTower and Tower configurations... plus EISA, SCSI, Local Bus (add $75.), and 486DX2/50, 486DX2/66 and 486DX/50

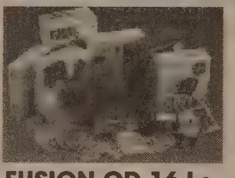
Multi-Media Upgrades

SOUND BLASTER™ Discovery CD-16 Upgrade Kit

Creative Labs-New for '93! Latest 16-bit technology includes: SoundBlaster 16, Stereo Speakers, Hi-Performance CR-ROM Drive (int.) MPC and Photo CD compatible, 390 ms, Plus Software Toolworks, MultiMedia Encyclopedia, San Diego Zoo Animals and Lemmings

ACP's Sale **$498**

MEDIA VISION Fusion CD-16 Upgrade Kits



FUSION CD 16-E

ACP's Sale **$599** photo may vary

- NEC DRV 25J(ext) 650ms/150KD
- Audio Spectrum 16-SCSI
- LAB TECH Speakers
- Software-Free CD Titles included ...where in the World is Carmen San Diego, Civilization and Mantis by Microprose, Compton's Family Encyc., BattleChess by Interplay

FUSION CD 16-I Sony 31A(int) 490ms/150KD, ProSpectrum 16-bit SLCD-IDE, LAB TECH Speakers, Great Software (same as above), see line listings for more MediaVision products... **$529**

TEXEL "Double-Speed" CD-ROM Kit

For Maximum Performance! ...experience the difference with a Double Speed Drive. Includes: DM3024 drive (int), 265ms, Double Data Transfer for 300KB/sec, MediaVision Spectrum 16, interface kit, Microphone, Compton's MPC Encyclopedia, Carmen San Diego, National Parks, PC Library, Nautilus Mag, GamePak, Music CD, MPC Wizard, Mediaclips, King's Quest V,etc.

ACP's Sale **$995**

CD ROM Drives • CD Bundles

Our Best Seller!

MITSUMI CD-ROM Drive **$189**

265ms, MPC Interface Crd, MS Ext, SW, BONUS OFFER w/Drive Purchase

- Compton's Family Encyc, World Atlas, Webster's Dic, $39.95
- Family Choice's 15 Ed. $29.95
- Lucas Games "Loom" $19.95

CD Bundle #1, Ret. Val. $804. **$99**
Software Toolworks Mavis Beacon Teaches Typing, World Atlas Multimedia Ed., US Atlas w/Automap, Reference Lib. Microsoft Works for Windows-Multimedia Edition

CD Bundle #2, Ret. Val. $1013. **$299**
Reference Library, Family Doctor, US History, Animals, Software Du Jour, Grolier's Illustrated Encyclopedia

CD Bundle #3, Ret. Val. $519. **$179**
Loom, CD Game Pack II, Secret of Monkey Island, Sherlock Holmes Cons. Detective, Secret Weapons of the Luftwaffe, Wing Commander w/ Ultima VI

$359

ADS PC Prime Time

122 channel cable-ready TV-Tuner with scalable windows and complete software kit, 4watt stereo	359
ADS Video Clipper Capture motion from hard disk	399
ADS VGA TV Elite Converts VGA to Big Screen TV	349

Video Graphics Cards

ATI	
Graphics Ultra Pro 2Mb	495
Graphics Plus 2Mb	315
Graphics Vantage 1Mb	285
Diamond-*New for '93*	
SpeedSTAR 24X 1Mb	154
Stealth 1Mb	210
Stealth 24 ISA/VESA	165/169
Stealth Pro 1Mb/2Mb	239/349
Stealth Pro VESA 2Mb	335
Viper VESA Local Bus 2Mb	389
Sigma Designs	
Windstorm MM Display Card	335
Orchid Fahrenheit 1280 w/1Mb	189

More MultiMedia...

Creative Labs	
New for '93 -Upgrade Kits	
Edutainment Kit (upgrade kit)	Call
Discovery Kit (upgrade kit)	Call
Sound Blaster Deluxe/Pro	88/149
Video Blaster	338
Sound Blaster 16 ASP	Call
Video Spigot/Windows	399
MediaVision	
Pro 16 MultiMedia System	899
Fusion CD 16 int/ext	499/549
CDPC XL Subsystem	1169
Pro Movie Spectrum	289
NEC *-New Multispin!*	
CDR 84-1 (int) 74-1 (ext)	535/595
MultiMedia Gallery w/Multispin	869
CDR 38 Portable CD	459
Turtle Beach	
Multi-Sound Upgrade Kit	1289
Texcel	
MultiMedia Bundle 16-bit with 10 Software Titles int/ext	995/1095
Home Bundle Double Speed	665/765
DM3024 DoubleSpeed CD int/ext	399/499
8-bit Kit w/Transfer I/O int/ext	485/575
Sigma Designs	
Windstorm CD-ROM Kit 24 bit	1039
Toshiba	
XM43018 Double Speed (int)	485
Gravis Ultra-Sound-*New!*	169

Advanced Computer Products, Inc.

1310 E. Edinger, Santa Ana, CA 92705 • FAX 714-558-8849 • Toll-Free 1-800-FONE ACP • Sales 714-558-8813

VISA MasterCard AMERICAN EXPRESS MMC

Prices subject to change without notice. No surcharge on credit card. Credit cards not charged until we ship. 100% risk free return guarantee! If you are not 100% satisfied just return insured within 15 days complete with all materials in new resaleable condition with original invoice. ACP will immediately exchange product or issue ACP credit less shipping for future purchase. No Returns on software Special Purchase

CALL 714-558-8813 EASY PHONE ORDER LINE

You've found MicroMarketplace

Announcing MicroTimes' new special section, "MicroMarketplace"

MICROMARKETPLACE

YOU ARE HERE!

LIST OF MICRO MARKETPLACE ADVERTISERS

3 - 6 Computers	66
All In One Computer	69
B & N Computer	60
DC Computer	62-63
Gatetronix	67
Merlion	64
Pacifico Computer	68
Theta Computer	61
Vertical Enterprises	65

The most comprehensive section of computer products and where to buy them in Southern California.

So many products!
So many stores!

To help you navigate your way to the best buys, MicroTimes introduces "MicroMarketplace", a special section for computer buyers located between page 60 and page 90 in every issue. Find the best selection of computer products in Southern California, in a convenient, easy-to-find format!

ADVERTISERS!

Give your product the attention it deserves in MicroTimes' MicroMarketplace.

You will reach over 450,000* readers who are ready to buy product NOW!

According to our independent reader survey, each of our corporate readers plan to spend over $45,000.00** on computer products for their office in the next twelve months.

FOR DETAILS CALL
(213) 851-8600 or
(714) 939-2809

* Includes pass-along readership
** Beta Research West, 1991

TAKE A CLOSER LOOK AT

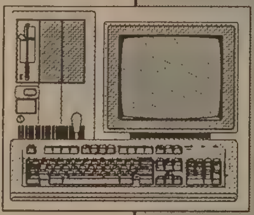
VALUES THAT PROMPT A COMPARISION

ISA 486 System

WARRANTY:
1 YEAR PARTS
&
2 YEARS LABOR

- ☐ Intel 486 Microprocessor.
- ☐ Built-in Math Co-Processor.
- ☐ Mini tower case, 230w PS.
- ☐ 256K Cache of Hi-Speed RAM.*
- ☐ 4MB RAM (Exp. to 32MB).
- ☐ 1.2MB & 1.44MB TEAC FDD.
- ☐ 170MB IDE 13ms HD with IDE Adapter.
- ☐ 2-serials, 1-parallel & 1-game ports.
- ☐ 101-key enhanced keyboard.
- ☐ Accelerator Graphics Card 1280 x 1024 - 1MB.
- ☐ 14" .28 dot monitor.

** 486-SX come with 64K Cache*



FREE FREE FREE

- Hi-Res Mouse
- DOS 6.0 w/manual
- Windows 3.10 w/manual
- Windows WORK (Word Processor, Spread sheet, Database, Graphics, Communication, Label maker, Address book)

✧ 486DX-33	$1340
✧ 486DX-50	$1495
✧ 486DX2-66	$1590

VESA Local Bus 486

- ☐ Intel 486 Microprocessor.
- ☐ Built-in Math Co-Processor.
- ☐ Mini tower case, 230w PS
- ☐ 256K Cache of Hi-Speed RAM.
- ☐ 4MB RAM (Exp. to 32MB).
- ☐ 1.2MB & 1.44MB TEAC FDD.
- ☐ 210MB IDE 13ms HD
- ☐ 2-serials, 1-parallel & 1-game ports.
- ☐ 101-key enhanced keyboard.
- ☐ Accelerator Graphics Card 16.7 mil. color 32 BIT 1280 x 1024 - 1MB.
- ☐ 14" .28 dot N.I monitor

FREE FREE FREE

- Hi-Res Mouse
- DOS 6.0 w/manual
- Windows 3.10 w/manual
- Windows WORK (Word Processor, Spread sheet, Database, Graphics, Communication, Label maker, Address book)

✧ 486DX-33	$1495
✧ 486DX-50	$1650
✧ 486DX2-66	$1775

✧ 386DX-40 $1150

☐ Intel 386DX-33 ☐ 64K Cache ☐ Mini tower case, 230w PS.
☐ 4MB RAM ☐ 1.2 MB & 1.44 MB FDD ☐ 170 MB IDE HD.
☐ 2-serials, 1-parallel & 1-game ports ☐ 101 enhanced keyb.
☐ Acc. Graphics Card w/1MB - 1280 x 1024.
☐ 14" .28 dot monitor.

Please call for any customized configurations at lowest price.

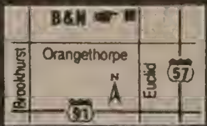
We accept
VISA MasterCard
Financing Available

UPGRADES

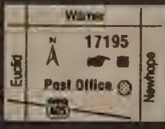
• 170 TO 250 MB HARD DRIVE ADD	$100.00
• 170 TO 340 MB HARD DRIVE	$240.00
• SVGA MONITOR TO NI SVGA	$35.00
• MEMORY 1 MB	$35.00
• 2400B MODEM	$39.00
• 9600B FAX/2400B MODEM	$79.00
• 120 MB TAPE DRIVE	$200.00
• SONY CD ROM W/CARD	$295.00
• MULTI MEDIA w/SOUNDBLASTER	$525.00
• PRINTERS, MISC.	Please Call

Prices subject to change without notice

B&N Computer
707 South Euclid
Fullerton, CA 92632
Tel:
(714) 871-5038
Fax:
(714) 871-6403



CD Group
17195 Newhope St., #109
Fountain Valley, CA 92708
Tel:
(714)434-6900
Fax:
(714) 434-9116



MICROSEL Peripheral
15368 Beach Blvd.
Westminster, CA 92683
Tel:
(714) 892-5020
Fax:
(714) 892-7901

91
Bolsa
CD
N
Beach
Magnolia
Mac Fadden
405

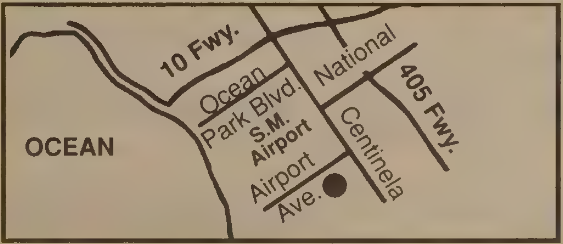
STRIPPED DOWN PRICES, NOT STRIPPED DOWN COMPUTERS

486DX2-66
VESA Local Bus
$1595

Intel 80486DX2-66 CPU
256K Cache Memory
3-slot Vesa Local Bus
4MB RAM
170IDE Hard Disk
Teac 1.2 MB Floppy Drive
Teac 1.44 MB Floppy Drive
14" ***CTX Non-Interlace***
Monitor (1024 x 768, .28mm)
32-Bit VL Bus Windows Accelerator
Card w/1MB Memory
32-Bit VL Bus IDE Controller
2 Serial, 1 Parallel, 1 Game
101-key Keyboard
Serial Mouse
Dual Cooling Fan
Mid Tower Case with 230W P.S.

THETA

intel inside



NOTEBOOKS

Theta 486SX/25 85MB, 4MB RAM Mono	$1375
NEC Versa 486SL/25C 120MB, 4MB RAM Active Matrix	$Best
IBM Thinkpad 700 486SLC/25, 120MB 4MB RAM, Mono	$Best
Toshiba 4400C, 486SX/25 120MB, 4MB RAM Active Matrix	$Best
Toshiba 4400C, 486DX/25 200MB, 4MB RAM Active Matrix	$Best
Toshiba 1850, 386SX/25 120MB, 4MB RAM Dos, Windows, Mouse	$Best

486DX-33
VESA Local Bus
$1359

Intel 80486DX-33 CPU
256K Cache Memory
3-slot Vesa Local Bus
4MB RAM
170MB IDE Hard Disk
Teac 1.2MB Floppy Drive
Teac 1.44MB Floppy Drive
14" ***CTX Non-Interlace***
Monitor (1024x768, .28mm)
32-Bit VL Bus Windows Accelerator
Card w/1MB Memory
2 Serial, 1 Parallel, 1 Game
101-key keyboard
Serial Mouse
Mid Tower Case with 230W

486DX-50
$1465

Intel 80486DX-50 CPU
256K Cache Memory
4MB RAM
170MB IDE Hard Disk
Teac 1.2MB Floppy Drive
Teac 1.44MB Floppy Drive
14" ***CTX Non-Interlace***
Monitor (1024 x 768, .28mm)
SVGA Card w/1MB Memory
2 Serial, 1 Parallel, 1 Game
101-key keyboard
Serial Mouse
Mid Tower Case with 230W

386DX-40
$979

AMD 80386DX-40
128K Cache Memory
4MB RAM
130MB IDE Hard Disk
Teac 1.2MB Floppy Drive
Teac 1.44MB Floppy Drive
14" ***SVGA*** Monitor
(1024 x 768,.28mm)
SVGA Card w/1MB Memory
2 Serial, 1 Parallel, 1 Game
101-key keyboard
Serial Mouse
Mini Tower Case with 230W

UPGRADES

Memory:	
4MB==>8MB	$130.00
8MB==>16MB	$275.00
Hard Disk:	
170MB==>250MB	$100.00
170MB==>340MB	$240.00
250MB==>340MB	$140.00
Monitor:	
CTX 1461	$35.00
CTX 15"	$140.00
CTX 17"	$535.00
Graphic Cards:	
Speedstar PRO VLB	$65.00
Steath 24 VLB	$100.00

Five Years Labor Warranty
One Year Parts Warranty

THETA COMPUTER CORP.

3200 Airport Ave. #22, Santa Monica, CA 90405
Tel # (310) 572-1613 • FAX # (310) 572-1615
Business Hours • 9:00A.M. - 7:00P.M. M-F • Sat. 10A.M. - 4P.M.
All Prices and Specifications are Subject to Change
"The Intel Inside Logo is the registered trademark of Intel Corporation"

Financing Available!

DC Computer, Inc.

Leasing Available!

DC 486DX-33 & 50MHz VESA NI Monitor & EISA-VESA LB System

- * Intel 80486DX Processor
- * Internal i487 math coprocessor
- * 8 32-Bit EISA slots, 2 with 32-Bit Vesa LB
- * HEAT-SINK w/FAN for 50Mhz/66MHz System
- * 256K Cache Memory
- * 4MB RAM installed (Exp. to 32MB)
- * Middle Tower case w/200W UL power supply
- * 1.2MB & 1.44MB TEAC Floppy Drives
- * 245MB Connor IDE Hard Drive 12ms
- * 32-bit IDE Floppy/Hard Drive Controller card
- * 2 Serial, 1 Parallel, 1 Game Port
- * VESA Local Bus SVGA Graphics accelerator card w/1MB. Resolution up to 1280x1024. 72Hz refresh rate. 16.7 mil. colors.
- * 14" VESA standard NON-INTERLACED Super VGA color Monitor. 72Hz at 1024x768. .28 dot pitch. Maximum res. 1280x1024.
- * Keytronics (USA) 101-Key Keyboard
- * Hi-Resolution Mouse

	CASH	Sale Price
486DX-33EV 245MB HDD	$1575	$1625
486DX-50EV 245MB HDD	$1735	$1785
486DX2-66EV 245MB HDD	$1825	$1875

DC 486DX-33 & 50MHz SVGA NI Monitor & VESA LB System

- * Intel 80486DX Processor
- * Internal i487 math coprocessor
- * 2 VESA COMPLIANT LOCAL BUS Slots
- * HEAT-SINK w/FAN for 50Mhz/66MHz System
- * 256K Cache Memory
- * 4MB RAM installed (Exp. to 32MB)
- * Mini-Tower case w/200W UL power supply
- * 1.2MB & 1.44MB TEAC Floppy Drives
- * 170 MB Connor IDE Hard Drive 15ms
- * IDE Floppy/Hard Drive Controller card
- * 2 Serial, 1 Parallel, 1 Game Port
- * VESA Local Bus SVGA Graphics accelerator card w/1MB. Resolution up to 1280x1024. 72Hz refresh rate. 16.7 mil. colors.
- * 14" NON-INTERLACED Super VGA color Monitor. 72Hz at 800x600. .28 dot pitch. Maximum resolution 1280x1024.
- * 101-Key Keyboard
- * Hi-Resolution Mouse

	CASH	Sale Price
486DX-33V 170MB HDD	$1295	$1335
486DX-50V 170MB HDD	$1455	$1495
486DX2-66V 170MB HDD	$1545	$1585

DC 486DX-33 & 50MHz SVGA MONITOR & ISA Bus System

- * Intel 80486DX Processor
- * Internal i487 math coprocessor
- * 6 16-Bit & 1 8-bit ISA Slots
- * HEAT-SINK w/FAN for 50Mhz/66MHz system
- * 256K Cache Memory
- * 4MB RAM installed (Exp. to 32MB)
- * Mini-Tower case w/200W UL power supply
- * 1.2MB & 1.44MB TEAC Floppy Drives
- * 170MB Connor IDE Hard Drive 15ms
- * IDE Floppy/Hard Dirve Controller card
- * 2 Serial, 1 Parallel, 1 Game Port
- * Trident 32-bit memory access ISA Bus Super VGA card w/1MB. Resolution up to 1024x768. 256colors. 72Hz refresh rate.
- * 14" Super VGA color Monitor. .28 dot pitch. Maximum resolution 1024x768.
- * 101-Key Keyboard
- * Hi-Resolution Mouse

	CASH	Sale Price
486DX-33C 170MB HDD	$1185	$1225
486DX-50C 170MB HDD	$1345	$1385
486DX2-66C 170MB HDD	$1435	$1475

EISA-VLB System Upgrades

Add prices to the above configuration

* Diamond Stealth VESA LB	$ 80
* Orchid P9000 w/2MB VRAM	$265
* 15" Color Flat Screen Monitor	$120
* 17" Viewsonic 7 Monitor	$630
* VESA LB IDE Cache ctrl. w/2mb	$205
* Adaptec 1742AK EISA SCSI	$375
* 340MB 12ms IDE Hard Drive	$ 80
* 452MB 12ms IDE Hard Drive	$270

VESA LB System Upgrades

Add prices to the above configuration

* Diamond Stealth VESA LB	$ 80
* 14" VESA SVGA NI Monitor	$ 30
* 15" Color Flat Screen Monitor	$150
* 17" Viewsonic 7 Monitor	$660
* VESA Local Bus IDE Controller	$ 45
* VESA LB IDE Cache ctrl. w/2mb	$245
* 245MB 12ms IDE Hard Drive	$ 50
* 340MB 12ms IDE Hard Drive	$130

486 ISA System Upgrades

Add prices to the above configuration

* Logitech Mouseman (serial)	$ 35
* Mid Tower case upgrade	$ 25
* 14" Non-Interlaced Monitor	$ 30
* 14" VESA SVGA NI Monitor	$ 60
* 15" Color Flat Screen Monitor	$180
* ISA Cache Cntlr. w/512K	$ 85
* 245MB 12ms IDE Hard Drive	$ 50
* 340MB 12ms IDE Hard Drive	$130

Cash=Cash
Cashier's CK
Sale=Check
Credit Card

VISA and MasterCard

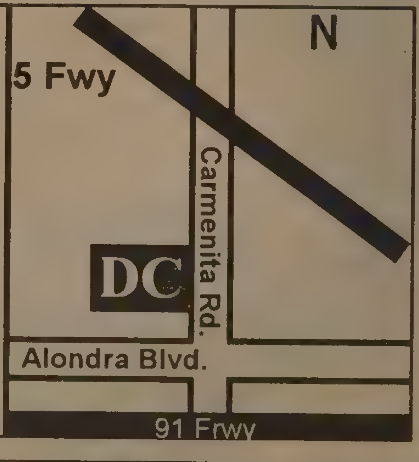
Prices subject to change without notice
One year parts and labor warranty

DC Computer, Inc.

15605 Carmenita Rd. #106
Santa Fe Springs, CA 90670
Fax: (310) 802-2662

MON-FRI: 10am-7:30pm / SAT: 10am-6:00pm

(310) 926-9331



90 Days Same as Cash

DC Computer, Inc.

Two Hour Credit Approval

MULTIMEDIA KIT $375

- **Sound Blaster Pro**
  1) Stereo 20 voice, 4-operator OPL3 FM music synthesizer
  2) Stereo DAC's and ADC's - 8bit
  3) Stereo Digital/Analog mixer
- **Panasonic CD-ROM**
  1) 630MB Data capacity
  2) 64K buffer memory
  3) 390ms access time: exceeds current MPC standard
  4) Full Interface compatibility with SB Pro Audio card
- **Bundled Software - 5 CD Titles**
  1) Software Toolworks Multimedia Encyclopedia
  2) King's Quest V
  3) Mixed-up Mother Goose
  4) Software Toolworks U.S. Atlas
  5) Software Toolworks World Atlas

Windows 3.1 & MPC Compatible

DC 486SX-25/33MHz 64K CACHE SYSTEM

- Intel 80486SX-25/33MHz Processor
- 64K Cache Memory
- 4MB RAM installed (Exp. to 32MB)
- Mini-Tower case with 200 watt UL power supply
- 1.2MB & 1.4MB TEAC Floppy Drives
- 120MB Hard Drive 16ms
- IDE FD/HD Controller card
- 2 Serial, 1 Parallel, 1 Game Port
- Trident Super VGA card w/1MB
- 1024 x 768 Super VGA color Monitor .28 dot pitch
- 101-Key Keyboard
- Hi-Resolution Mouse

	CASH	Sale Price
486SX-25	$ 995	$1025
486SX-33	$1065	$1095

DC 386DX-40MHz 64K CACHE SYSTEM

- AMD 80386-40MHz Processor
- 64K Cache Memory
- 4MB RAM installed (Exp. to 32MB)
- Mini-Tower Case with 200 watt UL power supply
- 1.2MB & 1.4MB TEAC Floppy Drives
- 120MB Hard Drive 16ms
- IDE FD/HD Controller card
- 2 Serial, 1 Parallel, 1 Game Port
- Trident Super VGA card w/1MB
- 1024 x 768 Super VGA color Monitor .28 dot pitch
- 101-Key Keyboard
- Hi-Resolution Mouse

CASH	Sale Price
$925	$945

MULTIMEDIA CD TITLES

Animals V1.0	$ 24
Battle Chess	$ 35
Beauty and The Beast	$ 25
Carmen San Diego	$ 35
Chessmaster 3000	$ 30
Composer Quest	$ 35
Compton's Encyclopedia	$ 85
Jones in the Fast Lane	$ 25
Lotus 1-2-3	$100
Microsoft Bookshelf	$ 55
MIDI Music Shop	$ 25
Sherlock Holmes - Cons. Detective	$ 30
So Much Shareware I	$ 20
Space Quest IV	$ 35
Stellar 7	$ 30
Time Table of History	$ 20
US Atlas & AutoMap	$ 30
Wing Commander & Ultima VI	$ 35

KEYBOARDS

KME-101 Key Keyboard	$ 20
Keytronics KT-2000 101 Keyboard	$ 45
Fujitsu - 4700 101 Key Keyboard	$ 45
Focus - 2001 101 Key Keyboard	$ 45
Focus - 9000 128 Key Keyboard	$ 65

MOTHERBOARDS

386DX-40MHz w/CPU ISA	$155
486DX-33MHz w/CPU w/256K cache	$395
486DX-50MHZ w/CPU w/256K cache	$555
486DX2-66MHz w/CPU w/256K cache	$645
Heat-Sink w/Fan	$ 20

PRINTERS

Panasonic 2123 24-Pin	$ 227
Panasonic 2124 24-Pin	$ 299
Panasonic 4410 Laser Priner	$ 585
HP DeskJet 500	$ 355
HP DeskJet 500C	$ 480
HP DeskJet 550C	$ 679
HP IIIP Laser w/toner	$ 825
HP IV L Laser W/1MB	$ 649
HP IV Laser w/2MB w/toner	$1325

MODEMS

2400 Baud Internal Modem	$ 30
96/24 Fax/Modem for Windows w/Winfax	$ 59
14.4 Baud (14.4 Fax) Internal	$175
14.4 Baud (14.4 Fax) External	$205

MISCELLEANOUS

Mouse Pen	$ 25
Microsoft Mouse (Serial)	$ 45
Logitech Mouseman (Serial)	$ 45
Artec Hi-Resolution Mouse	$ 10
Trackball	$ 30
Colorado 120MB Tape Backup	$165
Colorado 250MB Tape Backup	$215
Hi-Lite 250MB Tape Backup	$175
Sound Blaster Pro Deluxe	$135

CHASIS (CASES)

Mini-Tower w/200W UL Power Supply	$ 50
Desktop w/200W UL Power Supply	$ 55
Mid-Tower w/200W UL Power Supply	$ 70
Full-Tower w/200W UL Power Supply	$ 90

MONITORS

SVGA 14" 1024x768 .39dp	$205
SVGA 14" 1024x768 .28dp	$235
SVGA 14" NI 1024x768 .28dp	$265
SVGA 14" NI 1024x768 .28dp 72Hz	$295
SVGA 15" NI Flat Screen .28dp 72Hz	$415
17" Viewsinic 7 SVGA Monitor	$925
NEC 4FG SVGA 15" Flat Screen	$715

MANUALS

DOS 6.0 Manual w/diskettes	$ 45
Windows 3.1 Manual w/diskettes	$ 35

FLOPPY & HARD DRIVES

170MB Connor IDE Hard Disk Drive	$195
245MB Connor IDE Hard Disk Drive	$245
340MB Maxtor IDE Hard Disk Drive	$325
452MB Seagate IDE Hard Disk Drive	$515
1.2GB PO-12 Maxtor SCSI HDD	$1045
1.2MB TEAC Floppy Drive	$ 50
1.44MB TEAC Floppy Drive	$ 44
TEAC 2-in-1 1.2/1.44MB Floppy Drive	$135
2.88MB TEAC Floppy Drive	$ 85
MITSUMI CD-ROM w/ctrl.	$195

CONTROLLERS

AT /IO (2s,1p,1g)	$ 10
AT Super IDE w/IO Controller	$ 17
VESA Local Bus IDE Controller	$ 62
VLB IDE-Cache ctrl. w/0K Exp. 16MB	$185
SCSI - Adaptec 1542CK ISA Bus Master	$255
SCSI - Adaptec 1742AK EISA Bus Master	$395
SCSI - Ultrastor 24F EISA Bus Master	$355

90 Days Same As Cash!
For Approved Credit Only

Windows for Workgroups

Lantastic Dealer

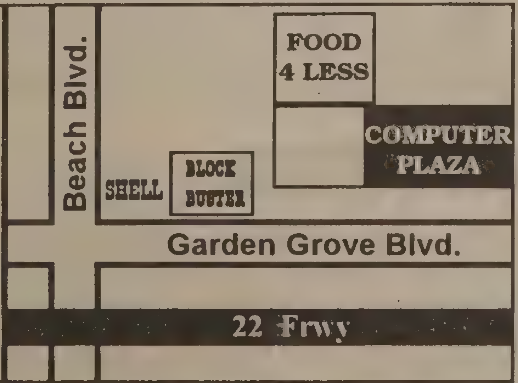
One year parts and labor warranty

COMPUTER PLAZA

12860 Beach Blvd. #J
Stanton, CA 90680

MON-FRI: 9am-6pm / SAT: 10am-4pm

(714)894-5063



MERLION COMPUTER

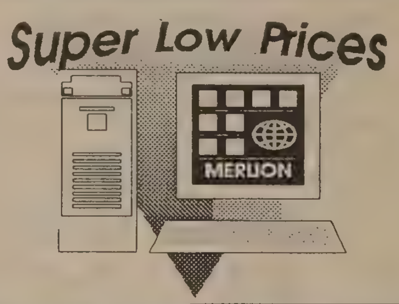
11362 Westminster Ave. - Suite V Garden Grove, CA 92643
Tel.: (714) 530-6226 Fax: (714) 530-8481

STORE HOURS:
Mon - Fri. 9:30AM - 6PM

VISA & MASTER CARD Accepted
ALL THE PRICES ARE CASH PRICES

Prices Subject To Change
Without Notice

Super Low Prices



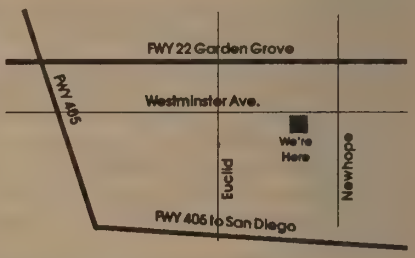
VESA Local-Bus 486DX-33MHz
$1399

VESA Local-Bus 486DX-50MHz
$1549

Super Desktop Pub.

256K Cache Memory	SVGA Monitor (.28dp) N.I.
4MB RAM (Upgrade to 32)	VESA 32 IDE Controller
TEAC 1.2 & 1.44 FDD	101 Enhanced Keyboard
245MB Hard Drive	Mid-Tower Case
VESA 32 Bit Graphic Card (1MB)	2S /1P /1G Port

Zip Socket for Pentium upgrade



SYSTEMS'S CONFIGURATION

386SX-33MHz	$879
386DX-40MHz	$919
486DLC-33MHz	$1075
486DLC-40MHz	$1115
486SLC2-50MHz	$1149
486DX-33MHz	$1199
486DX-50MHz	$1349
486DX2-66MHz	$1429

256K Cache	SVGA Monitor (.28dp) 1024x768
4MB RAM (Upgrade to 32)	101 Enhanced Keyboard
1.2MB FDD & 1.44MB FDD	2 Serials Port
170MB Hard Drive	1 Parallel & 1 Game Port
SVGA Graphic Card w/1MB	Mini-Tower Case

* 386SX-No Cache - 386DX'S System w/128K Cache - 486SX & 486DLC w/64K Cache

MOTHERBOARD

Motherboard w/o CPU

OPTI	486DX-33w/256K	BabySize	150
OPTI	486DX-33w/256K	1/2Size	125
OPTI	486DX2-66w/256K	1/2Size	125
OPTI	486DX-50w/256K	1/2Size	125
ALI	486DX-33w/256K	1/2Size	110
ALI	486DX2-66w/256K	1/2Size	110
ALI	486DX-50w/256K	1/2Size	110
OPTI	386DX-40W/128K		135
OPTI	386DX-33w/128Kw/oCPU		90
ALI	386SX-33w/CPU		90
OPTI	386SX-25w/CPU		86

VESA LOCAL BUS

SIS	486DX-33w/256K		135
SIS	486DX-50w/256K		135
SIS	486DX2-66w/256K		135
OPTI	486DX-33w/256K	BabySize	150
OPTI	3/486DXw/256K	3VL Slots	135
UMC	486dx W/256k 3VL Slots		135

I/O & CONTRL

AT I/O (2S/1P/1G)	14
IDE Contrl (2FDD/2HDD)	15
IDE Contrl w/BIOS	35
High Speed AT I/O (16C550)	40
Super IDE w/IO -(2FDD/2HDD; 2S/1P/1G)	18
LCS Super 4FDD Contrl	35
LCS EISA IDE Caching Ctrl (zero K)	195
Future Domain 1680DNK SCSI	295
Super VLB IDE w/IO	42
DC 680 VLB IDE Caching Ctrl.	180
Ultrastor 34F 32K Cache SCSI Ctrl.	Call

MOUSE - K/BOARD

Serial Mouse	$12
HANDY Mouse	$30
True Mouse w/Pad	$15
101 Keyboard	$20
KEYTRONIC Keyboard	$39
FOCUS 2001 Keyboard	$39
FOCUS 9000 Keyboard	$65
FUJITSU Keyboard	$42

MONITOR

EVERVIEW 14" SVGA .28dp Non-Int.	$260
INFINITI 14" SVGA .28dp	$245
INFINITI 14" SVGA .28dp Non-Int.	$285
VIEWSONIC 6 .28dp N.I. Color Mon.	$335
VIEWSONIC 6FS 15" Color Mon.	$525
CTX 15"-1561 Color Mon.	$Call
VIEWSONIC 7-17" Color Mon.	$990
MORSE 17" Hi. Res Color Mon.	$850
NEC 5FG Multisync 17"	$Call
NEC 6FG Multisync 21"	$Call

FLOPPY/HARD

TEAC 1.2	$52
TEAC 1.44 w/o Kit	$45
MAXTOR 7080-80MB	$170
MAXTOR 7120AT-120MB	$195
MAXTOR 7213AT-213MB	$225
MAXTOR 7245AT-245MB	$260
CONNER 30104-120MB	$185
CONNER 30174-170MB	$205
CONNER 30204-200MB	$240
CONNER 245MB	$270
WESTERN DIGITAL-340MB	$315
MAXTOR-340MB	$315

CASES

Mini-Tower w/P.S.-CS931	$48
Mini-Tower w/LED & P.S.-CS931LED	$51
Mid-Tower w/P.S.-CS923	$68
Mid-Towr w/P.S.-Fancy CS817	$89
Full-Tower w/P.S.-CS911	$75
Full-Tower w/P.S.-Fancy CS816	$110
Black Mini-Tower w/P.S.	$69
Desktop w/P.S. (LED)	$69

SPECIAL OF THE MONTH

CIRUS LOGIC
VESA VGA Card
Upgradable to 2MB
$88

345MB IDE Hard Drive
Maxtor 7345MB
13ms
$305

SVGA Non-Int. Monitor
(.28dp, 1024X768)
SVGA Windows Accellerator
AVGA3 w/1MB
$295

SPECIAL!

386DX-40MHz w/128K Cache **$829**

486DX-33MHz w/256K Cache **$1075**

- 4MB RAM
- 120MB Hard Drive
- 1.2MB & 1.44MB Floppy
- 14" SVGA Monitor (1024X768, .39dp)
- SVGA Graphic Card (512K)
- IDE Controller & 2S/1P/1G. Ports
- 101 Enhanced Keyboard
- Mini-Tower Case

1 YEAR WARRANTY ON PARTS & LABOR

VIDEO CARD

OAK SVGA Graphic Card w/256K	29
OAK SVGA Graphic Card w/512K	38
OAK SVGA Graphic Card w/1MB	50
TRIDENT SVGA w/512K	40
TRIDENT SVGA w/1MB 8900CL	58
Cirrus-Logic w/Windows Accelerator	64
Tsengs Lab ET4000/32K Colors	98
Tsengs Lab ET4000/16.7M Colors	130
Tsengs Lab ET4000 VESA VL w/1MB	115
Genoa VESA VL w/1MB SVGA	115
AVGA3-VESA VGA Card	95
Orchid Fahrenheit VESA VL w/1MB -Graphic Accelerator	175
Diamond Stealth VESA VL w/1MB -Graphic Accelerator	175
Orchid P9000	$360
Diamond Viper w/2MB	Call

MODEM/NETCARD

16Bit ETHERNET CARD	$74
16Bit 10BaseT	$95
2400BAUD Int. Modem	$35
96/24 Int. Fax/Modem	$55
ZYXEL 14.4 Int. Fax/Modem	$320

MULTI-MEDIA

MITSUMI CD-ROM Int.	185
SONY CD-ROM 31A Int.	220
MEDIA CONCEPT Sound Card w/Speaker & Mic.	90
SOUND COMMANDER PRO - 16Bit w/Speaker	135
Option: Remote Controller	40
Sound Blaster Pro - 16ASP	235
Sound Blaster Pro (Basic)	165
Media Vision Pro Audio 16	185

Multi-Media Kit II:
Panasonic CDR
Sound Blaster Pro Card
Toolworks Multimedia Encyclo.
King Quest V (CD)
Mixed-up Mother Goose (CD)
U.S. Atlas & World Atlas (CD)
HSC Interactive SE (Windows)
Lemming - Indianapolis 500 (Diskette)
SB Pro Util.

Special $399

BBB
BETTER BUSINESS BUREAU

" Invest your money Wisely "
From the member of
The Better Business Bureau

"Satisfied Customers"
Rockwell International
AT & T Communication
Dowty Aerospace
Walnut Water District

ATC 486DX-33Mhz

intel inside

LOWEST PRICE EVER!

Reg. ~~$2129~~

$999

Lowest Price Ever

intel inside

DX2-66 Mhz $220 Extra
DX-50Mhz $150.00 Extra

- **Intel** 486DX-33 CPU
- AMI Programmable BIOS
- 4MB of 70ns Ram (32 Exp.)
- 1.2MB or 1.44MB Floppy
- 105MB IDE Hard Drive
- 2 Serial 1 parallel 1 Game
- 101 Enhanced Key Board
- VGA 16 bit 800x600 Card
- **Color** SVGA 14" Monitor
- Mini Case w/ 200w P.S.
- Mouse optional
- 1 yr. Parts & Labor Warranty

GREATEST VALUE

Accept TRADE-IN & UPGRADE

486VLB-33 Intel

Configuration same as 486dx-33

~~Reg. 1699.00~~ **$1099.00**

Hewlett Packard

HP laser 4 & Toner	**$1279.00**
HP Laser 3p & Toner	**$815.00**
HP Laser 4L & Toner	**$635.00**
HP Color Deskjet 500c	**$459.00**
HP Color Deskjet 550c	**$649.00**
HP Color Deskjet 1200c	**$1250.00**
HP Omnibook 300 w/40MB	**$1780.00**
HP Palmtop LX100	**$730.00**
HP Palmtop LX95 1MB w/123	**$565.00**
HP Palmtop LX95 512k	**$730.00**

NEC & SONY

NEC 3FGX 15"	**$625.00**
NEC 4FG 15"	**$680.00**
NEC 5FG 17"	**$1195.00**
NEC 6FG 21"	**$2125.00**
SONY 1430 14"	**$620.00**
SONY 1604S 17"	**$898.00**
SONY 2036s 20"	**$1895.00**
SONY 2038S 20"	**$2105.00**

486DLC-33 Cyrix

Configuration same as 486dx-33

~~Reg. 1399.00~~ **$899.00**

386DX-40 AMD

Configuration same as 486dx-33

~~Reg. 1129.00~~ **$749.00**

Color Scanner

PlusTek DeskJet 8.5" x 14"

300 dpi	**$425**	600 dpi	**$525**

HP Scanjet IIP (Grayscale)	**$695**
HP Scanjet IIC (color)	**$1255**

Multimedia Kit

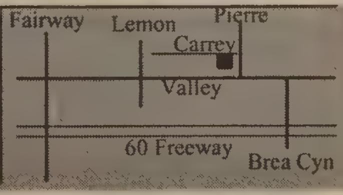
Panasonic CD Rom 390MS 150KB
Sound Blaster Pro 16bit
Kink's Quest 5, Mother Goose,
World & USA Atlas, Encyclopedia

$379.00

Vertical Enterprises Inc (909)595-5733

20844 Carrey Road, Walnut Ca 91789
Fax: (909)595-1745

Mon - Fri 9:00am - 6:00pm Sat - Call



3-6 COMPUTERS

2124 CAHUENGA BLVD. HOLLYWOOD, CA 90068
PHONE 213 466-3636
FAX 213 466-3693

intel inside

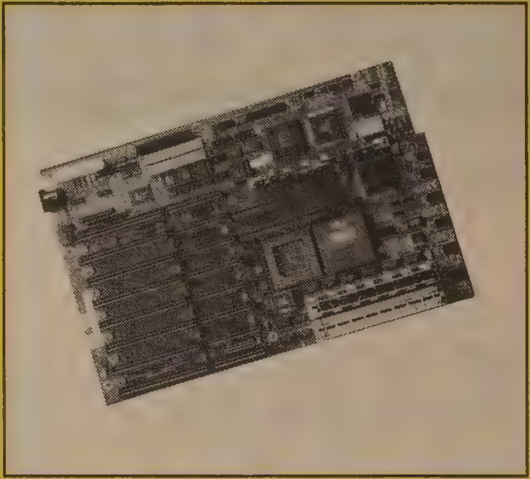
Authorized MICRONICS Distributor Since 1987

MICRONICS

COMPUTERS INC.

MICRONICS COMPUTERS INC. is a Participating Member of the Video Electronics Standard Association (VESA)

The Ultimate in Speed. The Ultimate in Performance.



VESA/LOCAL BUS

MICRONICS 66 VESA & EISA VESA	**CALL FOR BEST PRICE**
MICRONICS 50 DX2 VESA & EISA VESA	
MICRONICS 486/33 VESA & EISA VESA	
MICRONICS 486/25 VESA & EISA VESA	

The Micronics VL-Bus board allows system manufacturers to create a complete line of affordable high performance plug-and-play 486 products. By providing industry recognized compatibility, these system platforms can be combined with many manufacturers peripherals such as Video, Disk, Network and Multimedia controllers. In addition, with the proliferation of Graphical User Interfaces which require faster Video and Disk performance, these Local Bus products will be the best Windows application solution.

VESA 66

- ★ USA - Built **MICRONICS** 486 Vesa/66MHz
- ★ 245MB Maxtor 7245 Hard Drive
- ★ 8MB Simm Memory; 70ns
- ★ 1.2MB & 1.44MB Teac Floppy Drive
- ★ Micronics Vesa 32-Bit Video Adapter/1MB
- ★ Dual Serial/Parallel Adapter
- ★ PC Power & Cooling Fan
- ★ Northgate Omnikey Ultra Keyboard
- ★ Options: Any Hard Drive; Any Video

$1899

SCSI 2/LOCAL BUS

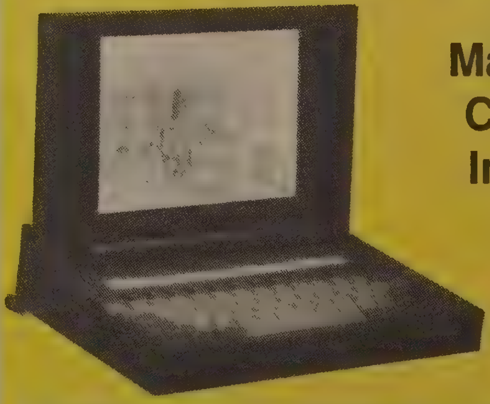
- ★ USA-BUILT **MICRONICS** 486 VESA/66MHz
- ★ 8MB SIMM Memory; 70ns
- ★ 1.2GB Maxtor SCSI Hard Drive
- ★ 1.2MB & 1.44MB Teac Floppy Drive
- ★ Stealth 24x Vesa Video Adapter/S3
- ★ Mag Innovision #17F SVGA Monitor
- ★ Ultrastar #34F Local Bus SCSI Controller
- ★ PC Power & Cooling Fan
- ★ Northgate Omnikey Ultra Keyboard
- ★ One Year Warranty - Parts & Labor

$4199

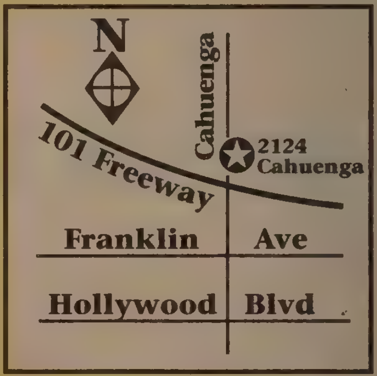
"CALL FOR YOUR SPECIAL CONFIGURATIONS"

One Year Warranty - Parts & Labor

NOTEBOOKS



Many Models to Choose From! In Stock Now!



OPEN EVENINGS
7th Year, Member of the Better Business Bureau

WE STOCK ALL MICRONICS BOARDS, MEMORY & PERIPHERALS...

CALL US FOR BEST PRICING!

*The Intel Logo is a trademark of the Intel Corporation.

Service, Support, Quality, & Price.

386/486SX Series

386SX/25MHz	$389
386SX/33MHz	$399
486SX/25MHz	$489

386DX Series

33MHz/64K Cache	$439
40MHz/128K Cache	$449

486DX Series

DX33MHz/64K Cache	$709
DX50MHz/64K Cache	$869
DX2-50MHz/64K Cache	$849
DX2-66MHz/64K Cache	$939

SYSTEMS INCLUDE :

- 1MB Memory
- Digital Mini-Tower Case
- 220W P/S (115/230V)
- 2S/1P/1G Ports
- IDE FD/HD Controller
- 1.2MB or 1.44MB FD
- 16 bit 800x600 VGA Card
- 14" P/W VGA Monitor
- 101 Enhanced Keyboard
- Clock/Calendar w/B.B.U.
- Hi-Res. Mouse & Software
- Operational Manual

- FULL ONE YEAR WARRANTY
- LIFETIME CUSTOMER SUPPORT
- BUY DIRECT & SAVE

486 VESA Local Bus

- 256K Ultra Fast Write Back Cache SRAM
- 4MB RAM Installed
- 32MB Expandable
- Intel Math Coprocessor
- 8K Cache Int.
- 1.2 & 1.44MB FD
- 213MB HD 13ms W/64K Cache
- 32 Bit VESA Local Bus FD/HD Controller
- 2S/1P/1G
- Hi-Res. Mouse
- 101 Keyboard(Japan)
- Non-Interlaced .28 Super VGA Color Monitor
- 32 Bit VESA Local Bus Super VGA Card W/1MB (Windows Accelerator, 1280x1024, 16M x Color)
- Clock/Calendar W/Battery Bkup
- Operation Manual
- Digital Mid-Size Tower Case
- 230W P/S (110/230V)

INTEL DX/33MHz	$1449
INTEL DX2/66MHz	$1699

MONTHLY SPECIAL
486SX/25MHZ SYSTEM

- 1MB RAM Installed
- 32MB Expandable
- INTEL 25MHz CPU
- 1.2MB or 1.44MB FD
- 120MB HD
- IDE FD/HD Controller
- 2S/1P/1G
- Hi Res. Mouse
- 101 Enhanced Keyboard
- Super VGA Color Monitor
- Clock/Calendar w/Battery Bkup
- Super VGA Card
- Operation Manual
- Digital Mini Tower Case
- 220W P/S (110/230V)

$799

486 EISA/VESA Local Bus

- 256K Ultra Fast Write Back Cache SRAM
- 8MB RAM Installed
- 128MB Expandable
- Intel Math Coprocessor
- 8K Cache Int.
- 1.2 & 1.44MB FD
- 341MB HD 13ms W/64K Cache
- 32 Bit VESA Local Bus FD/HD Controller
- 2S/1P/1G
- Hi-Res. Mouse
- 101 Keyboard(Japan)
- Non-Interlaced .28 Super VGA Color Monitor
- 32 Bit VESA Local Bus Super VGA Card W/1MB (Windows Accelerator, 1280x1024, 16M Color)
- Clock/Calendar W/Battery Bkup
- Operation Manual
- Digital Full-Size Tower Case
- 250 W P/S (110/230V)

INTEL DX/33MHz	$1799
INTEL DX2/66MHz	$2049

MOTHER BOARD	QTY 10
386SX-25 W/CPU	$77
386SX-33 W/CPU	79
386-40 W/128K W/CPU	129
ISA 486 33/66	64
ISA 486-33/66 W/64K	79
VLB 486-33/66 W/256K	119
EISA/VLB 486-33/66 W/256K	174

CASE & P/S	
Baby Desktop W/220W	45
Digital Mini Tower W/220W	41
Digital Med. Tower W/230W	61
Digital Full Tower W/250W	79

HARD DRIVE IDE	QTY 10
IBM 60MB 19ms SCSI	$154
Conner 84MB 17ms	154
NEC 105MB 19ms	169
Conner 120MB 17ms	169
Conner 175MB 17ms	199
W D 213MB 13ms	214
W D 256MB 13ms	254
W D 341MB 13ms	324
Fujitsu 520MB 12ms	679

FLOPPY DRIVE	
Chinon 1.2MB	44
Chinon 1.44MB	36

MONITOR/CARD	QTY 10
Everview 14" P/W VGA	$99
Everview .39 SVGA	199
Everview .28 SVGA	239
Everview .28 SVGA N/I	259
Viewsonic 17" SVGA N/I	899
MGP	9
Trident 512K SVGA	32
Trident 1MB SVGA	49
Windows Acc. 1MB SVGA	52
Windows Acc. 1MB VLB	74

MOUSE	
Golden Image Hi-Res. Mouse	$9
Golden Image Hi-Res. Trackball	27

NETWORK	QTY 10
8 Bit Arcnet Star	$39
16 Bit Arcnet Star	49
16 Bit Ethernet Coax	49
16 Bit Ethernet 10 Base T	53
4 Port Passive Hub	8
12 Port Concentrator	349

ADD ON CARD	
AT I/O (2S/1P/1G)	$9
IDE FD/HD Cont.	9
IDE FD/HD Cont. & I/O	12
VLB IDE 32 Bit & I/O	44

*ADD 3% QTY LESS THAN 10
*ADD 10% QTY LESS THAN 5

DEPOT REPAIR

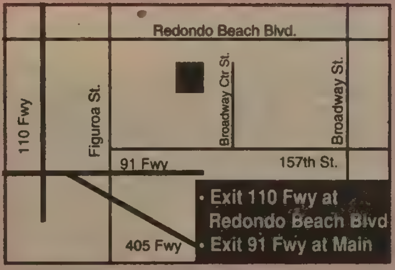
- Fast, Reliable & Guaranteed
- Volume Accounts, Call For Special Pricing!!!
- Call For Other Depot Solutions To On-Site Maintenance

DATA GENERAL • BLOWER MOTORS • SPINDLE MOTORS LINEAR MOTORS • R/W HEADS • DISK DRIVES • TAPE DRIVES CRTs • PRINTERS • CPUs MEMORIES • COMMUNICATIONS **CAD/CAM** • TEKTRONIX • MITSUBISHI • V.M.I. • RAMCOM SYSTEMS • **PERSONAL COMPUTER** • IBM-PC/XT/AT & COMPATIBLE • COMPAQ • LEADING EDGE • APPLE

WE DO: NOVELL • LANTASTIC • CUSTOMIZE • UPGRADE

GATETRONIX
Control Systems Inc.

Hardware & Software Services
15541 Broadway Center Street, Gardena, CA 90248
BROADWAY CENTER BUSINESS PARK
(corner of Broadway & 157th St.)
Tel: (310) 715-6086
Fax: (310) 715-6649



*All trademarks are acknowledged
**All GCS Systems are fully assembled & tested. Prices subject to change without notice.

BUSINESS HOURS
MON – FRI
9:00 – 6:00 PM
FINANCING AVAILABLE

GCS/ALL Micro Services

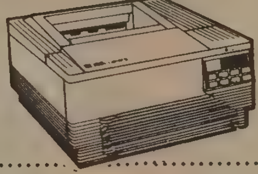
Valencia Industrial Park
27720 Avenue Scott
Unit 180
Valencia, CA 91355
(818) 972-9832
(805) 257-1925

Super Discount Computer Store

HEWLETT PACKARD

HP LASER JET 4

HEWLETT PACKARD



- TRUE 600 DPI
- 45 Scalable Typefaces
- 2 MB Memory
- 2 Paper Trays
- Toner & Cable $1299

HP LASER JET 4M

- With Toner & Cable $1799

HP DESK JET 500

HEWLETT PACKARD

W/Cable $339

HP DESK JET 550C

HEWLETT PACKARD

W/Cable $659

HP LASER JET IIIP

HEWLETT PACKARD

W/Toner & Cable $795

HP LASERJET 4L

HEWLETT PACKARD

- 300 DPI
- 4 PPM
- 26 Scalable Typefaces
- With Toner & Cable $649

LASERMASTER WIN JET 1200

1200-dpi resolution - camera ready for HP Laser Jet 4 .... $699

MEMORY UPGRADES

1MB for HP 4L	$69
2MB For Laser Jet III, IIIP & IIP	$99
4MB For HP 4L	$169

386DX 40MHz

- 200MB Hard Disk
- 5 1/4" & 3 1/2" Floppy
- Trident SVGA Card
- SVGA Color Monitor
- 4MB RAM
- 101 Keyboard
- 128K Cache
- Mouse

$995

486DX 33MHz

- 200MB Hard Disk
- 5 1/4" & 3 1/2" Floppy
- Trident SVGA Card
- SVGA Color Monitor
- 4MB RAM
- 101 Keyboard
- FCC/Novell Approved
- Mouse

$1295

486DX 50/66MHz

- 200MB Hard Disk
- 5 1/4" & 3 1/2" Floppy
- Trident SVGA Card
- SVGA Color Monitor
- 4MB RAM
- 101 Keyboard
- FCC/Novell Approved
- Mouse

$1450/1550

NOTEBOOK

386SX-33MHz

- 80MB Hard Drive
- 2MB RAM
- 1.44 Floppy
- 6 lbs.
- Carrying Case

$1095

486SLC-33MHz

- 4MB RAM
- 120MB Hard Drive

$1395

NOVELL

Authorized Dealer

- Networking
- Consulting
- Support

PACIFICO COMPUTERS

WEST L.A.
11540 Santa Monica Blvd.
310-478-2522

VALLEY
13907 Ventura Blvd. #103
818-788-4193

OPEN 10–6 MON. THRU SAT.

Prices subject to change without notice

Here's your free ticket to see the latest in networking

That's right. Fill out and mail the attached card and you'll receive a free pass to INTEROP® 93 August in San Francisco. The largest, most comprehensive networking event in the world, INTEROP lets you see all the latest computer and networking products, applications and technologies in one place, at one time.

Virtually every networking expert in the world will be at INTEROP. Along with more than 400 of the industry's top computer and networking vendors. Which means it's the perfect place for you and your entire networking team to track down answers to all your networking questions.

So if you're interested in anything that runs on a network, or makes a network run, come to INTEROP this August. Simply return the attached card for your free ExhibitsPlus™ admission.

INTEROP has the answers to the most critical questions in networking

- How are you going to re-engineer your network for the 90's?
- How can wireless applications improve your bottom line?
- How much does your LAN internetwork really cost?
- What's the future of SNA? APPN? APPI? TCP/IP?
- How can you reduce application development time?
- When do you use a bridge, router, brouter or gateway?
- Where is FDDI, FFOL, CDDI and Fast Ethernet appropriate?
- What is TCP/IP and how do you get it running on your LAN?
- What's the state-of-the-art in ATM, SMDS, Frame Relay, wireless and more?
- How should you design distributed client/server applications?

Exhibition Hours

Wednesday, 25 August
12:00pm – 6:00pm
Thursday, 26 August
10:00am – 6:00pm
Friday, 27 August
10:00am – 5:00pm

The ExhibitsPlus Pass gives you...

FREE – Exhibition Attendance: See more than 400 of your favorite computer and networking suppliers at work and working together over one live network.

FREE – Plenary Addresses: From "The Laws of Telecosm" to "Interactive TV," hear key industry leaders unfold the future of networking.

FREE – Birds-of-a-Feather Sessions: Talk with your peers in these after hours gatherings of networking professionals.

FREE – Presentation Theatres℠: Hear what's new from your vendors in a series of probing, 50 minute forums.

FREE – INTEROPnet™ Tour: Take a tour of the most diverse, multivendor, multiprotocol network in the world.

Register now for your FREE ExhibitsPlus Pass

Complete and mail the attached card today. You can also fax it to (415) 949-1779. This card must reach INTEROP by 23 July 1993. After this date, just bring the completed card with you to the show for your free pass.

For more information on our conference programs, call 1-800-488-ATTEND (1-800-488-2883) and receive your FREE Planning Guide.

25-27 August 1993
Moscone Center
San Francisco, CA

INTEROP® 93
AUGUST

"I know it works, I saw it at INTEROP"

All trademarks and registered trademarks belong to their respective holders. © 1993 Interop Company, 480 San Antonio Road, Mountain View, CA 94040, 1-800-468-3767, outside of the U.S. call 415-941-3399, Fax (415) 949-1779. No one under the age of 18 admitted.

Yes, I want to register for INTEROP 93 August – FREE!

Complete and return this card for a FREE ExhibitsPlus admission to INTEROP 93 August. This card must be received by 23 July 1993. After this date, bring this completed card with you to the show. Without this card, on-site registration is $50. Copy this card and save your friends $50 each.

Name____________________________________

Title____________________________________

Company__________________________________

Address__________________________________

City, State, Zip____________________________

Phone__________________Fax__________________

Mail or fax this reply card today!
Fax to 415-949-1779

GJ

Attendee Profile

In order to receive your free ExhibitsPlus pass, you must complete this section.

1. Please indicate the category closest to your company/organization's primary business activity. (Check one only.)

- ☐ **A.** Aerospace
- ☐ **B.** Computer Retailer/VAR/OEM Dealer
- ☐ **C.** Education
- ☐ **D.** Financial Services: Banking, insurance, investment
- ☐ **E.** Healthcare
- ☐ **F.** Manufacturing: Computer and communications equipment and software
- ☐ **G.** Manufacturing: Non-computer
- ☐ **H.** Military/Government/Defense
- ☐ **I.** Publishing/Media
- ☐ **J.** System Integration/Computer Industry Services/Consulting
- ☐ **K.** Telecommunications: Carrier, BOC, Telco, telephony
- ☐ **L.** Transportation
- ☐ **M.** Wholesale/Retail: Non-computer
- ☐ **N.** Other:________________

2. Please indicate the category that best reflects your primary job function. (Check one only.)

- ☐ **A.** Corporate/Administration/Finance
- ☐ **B.** Database
- ☐ **C.** Datacommunications: WAN
- ☐ **D.** Datacommunications: LAN
- ☐ **E.** E-mail/Messaging
- ☐ **F.** Manufacturing/Operations
- ☐ **G.** MIS/EDP/Data Center
- ☐ **H.** Software Development
- ☐ **I.** Scientific/Engineering/Research/Analysis
- ☐ **J.** Sales/Marketing
- ☐ **K.** Telecommunications
- ☐ **L.** Other:________________

3. Which of the following categories best describes your level of responsibility?

- ☐ **A.** Executive
- ☐ **B.** Manager
- ☐ **C.** Staff

4. What is your role in the purchase of computer products and services?

- ☐ **A.** Final decision-maker
- ☐ **B.** Recommender
- ☐ **C.** Specifier
- ☐ **D.** No role

INTEROP 93
August
Exhibitors

3Com Corporation
ABLE Communications
Accton Technology Corporation
ADACOM Group, The
ADAPTIVE
ADAX, Inc.
ADC Kentrox
Addison-Wesley/TEC
Adtech, Inc.
ADTRAN
Advanced Computer Communications
Advanced Micro Devices
Advanced Network & Services, Inc.
AG Group, Inc. The
AGE Logic, Inc.
ALANTEC
Alcatel TITN, Inc.
ALFA, Inc.
Allied Telesis, Inc.
ALLTEL Supply, Inc.
American Power Conversion
Ameritech
AMP, Inc., Fiber Optics Division
AMP, Inc., NPT & EOP
Andrew Corporation
Anixter Brothers
Apertus Technologies, Inc.
Apple Computer, Inc.
Applied Computing Devices, Inc.
ARTECH House, Inc.
Artel Communications Corporation
Asante' Technologies, Inc.
Ascend Communications
Ascom Timeplex
AT&T Data Communications Services
AT&T Microelectronics
AT&T Network Cable Systems
AT&T Network Systems
AT&T Paradyne
Auspex Systems, Inc.
Avatar Corporation
Axis Communications Inc.
AXON Networks, Inc.
BANCOMM
BBN Communications
Beame & Whiteside Software Ltd.
Bel Fuse Inc.
Bell South
BI, Division of Wavetek Corporation
Boole & Babbage, Inc.
Brixton Systems
BT
BT&D Technologies
Bus-Tech, Inc.
Business Communications Review
BYTE
Bytex Corporation
C.ITOH Technology, Inc.
Cabletron Systems, Inc.
CACI Products Company
Cameo Communications, Inc.
Canary Communications
Canoga-Perkins Corporation
Cardinal Business Media
Cascade Communications Corporation
Cayman Systems, Inc.
CBM Books
CBT Systems USA, Ltd.
Centrum Communications, Inc.
Century Software
CERFnet
Chase Research
Cheyenne Software
Chipcom Corporation
Chromatic Technologies Inc.
Cisco Systems, Inc.
ClariNet Communications Corporation
Clearpoint Research Corporation
CMP
Codenoll Technology Corporation
Cogent Data Technologies
Comdisco Systems, Inc.
Compatible Systems Corporation
CompuServe
Computer Intelligence
Computer Library
Computer Network Technology
Computer Publishing Group
Computerworld
Comtec Automated Solutions, Inc.
Concord Communications, Inc.
Cooper Industries/Belden Division
Coral Network Corporation
Corporate Computing
Covia Technologies
CR Systems
Cray Communications
Crescendo Communications, Inc.
CrossComm Corporation
CSP, Inc.
Cybex Corporation
CyLink
D-Link Systems, Inc.
Data Communications
Data Systems Sales
Datability, Inc.
DAVID Systems, Inc.
Dayna Communications
DCA
Delta Microsystems, Inc.
DeskNet Systems, Inc.
DeskTalk Systems
DigiBoard
Digital Equipment Corporation
Digital Link Corporation
Digital Technology, Inc.
Digitech Industries, Inc.
DISCOS
Distributed Systems International, Inc.
Dolphin Networks
DSC Communications
Dynatech Communications
EFI Electronics Corporation
EICON Technology Corporation
Emeritus
Emulex Corporation
Enterprise Solutions Limited
Epilogue Technology Corporation
Epoch Systems, Inc.
Esker, Inc.
EXFO EO Engineering Inc.
Experdata
Farallon Computing, Inc.
FastComm Communications Corporation
Federal Computer Week
FiberCom, Inc.
Fibermux Corporation
FiberNet Research, Inc.
Fibertron Corporation
Fibronics International Inc.
Firefox Communications Limited
Fore Systems, Inc.
Forest Computer, Inc.
Frontier Software Development, Inc.
Frontier Technologies Corporation
FTP Software, Inc.
Fujitsu Microelectronics, Inc.
Fujitsu Open Systems Solutions, Inc.
Gandalf Technologies, Inc.
Garrett Communications, Inc.
GCOM, Inc.
General DataComm
Glasgal Communications Inc.
GN Navtel
GTE
Hadax Electronics, Inc.
Harris & Jeffries, Inc.
Hayes Microcomputer Products, Inc.
Helfrich Company, The
Hewlett-Packard Company
Hitachi Computer Products (America), Inc.
Hubbell Premise Wiring, Inc.
Hughes LAN Systems
Hummingbird Communications Ltd.
HYPERCOM, Inc.
IBM
IDEAssociates
IEEE Communications Society
Informer Computer Systems
Infoworld
Innosoft International, Inc.
Integrated Computer Solutions, Inc.
Intel Corporation
InterCon Systems Corporation
Interlink Computer Sciences
International Automation
Interphase Corporation
ISICAD, Inc.
ISOCOR
IWI
IXI Corporation
John Fluke MFG Company, Inc.
John Wiley & Sons, Inc.
JSB Corporation
Jupiter Technology
Kalpana, Inc.
KEA Systems Ltd.
Keyword Office Technologies Ltd.
Krone, Inc.
LAN Computing
LAN Magazine
LAN Times
LANCAST
Lannet Data Communications, Inc.
Lantronix
LARSE Corporation
Legato Systems, Inc.
Liebert Corporation
LIR Corporation
Livingston Enterprises, Inc.
Logicraft
Lotus Development Corporation
Luxcom, Inc.
Madge Networks
Make Systems
MAXM Systems Corporation
McDATA Corporation
McGraw-Hill/Technet Publications
Metrix Network Systems, Inc.
MFS Communications Company, Inc.
Micom Communications Corporation
Microdyne Corporation
Microsoft Corporation
Microtest, Inc.
MIL 3, Inc.
Milan Technology Corporation
MOD-TAP
Mohawk Wire & Cable
Morning Star Technologies
Motorola Codex
Motorola, Inc.
MultiAccess Computing Corporation
MUX LAB
National Semiconductor Corporation
NCC Open Systems
NCR Corporation
NEC America, Inc.
Neon Software
Netcor
NetExpress
NetFRAME Systems, Inc.
NetLabs, Inc.
Netlink, Inc.
NetManage, Inc.
Netronix
Netvantage
NetWiz
Network Application Technology
Network Communications Corporation
Network Computing
Network Equipment Technology
Network Express, Inc.
Network General Corporation
Network Management Forum
Network Managers (UK) Limited
Network Peripherals, Inc.
Network Systems Corporation
Network Telesis
Network World
Networking Direct Corporation
Networking Management
Networks Northwest, Inc.
NetWorth
Newbridge Networks, Inc.
Newport Systems Solutions, Inc.
Novell, Inc.
O'Reilly & Associates, Inc.
Objective Systems Integrators
Olicom USA, Inc.
Open Computing Security Group
Open Software Foundation
Open Systems Today
OpenConnect Systems, Inc.
Optical Cable Corporation
Optical Data Systems
Oracle Corporation
Ortronics, Inc.
OSIware Inc.
Pacific Bell
Pacific Communication Sciences, Inc.
Pacific Softworks
Panamax
PC Computing
PC Magazine
PC Week
PEER Networks
PeerLogic
Penril DataComm Networks
Peregrine Systems
Performance Systems International, Inc.
Performance Technology
Persoft, Inc.
Phillips Publishing, Inc.
Phoenix Microsystems Inc.
Pilkington Communications Inc.
Plexcom, Inc.
Prentice Hall
Primary Rate, Inc.
Process Software Corporation
Proteon, Inc.
ProTools, Inc.
R Squared
Rabbit Software Corporation
Racal-Datacom
RACORE Computer Products
RAD Data Communications
RAXCO, Inc.
Remedy Corporation
Retix
RND (RAD Network Devices)
Rockwell International
RS Magazine
RSA Data Security, Inc.
SAS Institute Inc.
SBE, Inc.
Security Dynamics
Shany, Inc
Siemens Fiber Optic Components
Siemens Stromberg-Carlson
Siemon Company, The
Silicon Graphics, Inc.
Simpact Associates, Inc.
SMC
SNMP Research, Inc.
Soft•Switch, Inc.
Spider Software
Sprint
Stacks: The Network Journal
Star-Tek, Inc.
StarNine Technologies
StrataCom, Inc.
SunConnect
SunExpert Magazine
SunSelect, of Sun Microsystems
SunSoft, Inc.
Sync Research
Synernetics Inc.
SynOptics Communications, Inc.
Syntax, Inc.
SysKonnect, Inc.
Systems Strategies
T & R Communications, Inc.
T3plus Networking, Inc.
Tandem Computers
Target Systems Corporation
TCL, Inc.
TechNet Publications
Technically Elite Concepts, Inc.
Tekelec
TEKnique, Inc.
Tektronix, Inc.
Telco Systems, Inc.
Telebit Corporation
Telecommunications Magazine
Telecommunications Techniques Corporation
Teleglobe Communications
Telematics International, Inc.
Telenex Corporation
Tenon Intersystems
TGV, Inc.
Themis Computer
Thomas Publications
Thomas-Conrad Corporation
Thursby Software Systems, Inc.
Tom Sawyer Software
Transarc Corporation
Transition Engineering, Inc.
Transitional Technology, Inc.
Trident Data Systems, Inc.
Tripp Lite MFG
U S Robotics
US West Communications
UconX Corporation
Ungermann-Bass, Inc.
UNIX International
UnixWorld
Upside Magazine
UUNET Technologies, Inc.
Verilink Corporation
VisionWare
VisiSoft
Vitalink Communications Corporation
Walker Richer & Quinn, Inc.
Wandel & Goltermann
Wellfleet Communications, Inc.
Western DataCom Co., Inc.
WilTel
Windata, Inc.
Wingra Technologies, Inc.
Wollongong Group, The
XLNT Designs, Inc. (XDI)
Xylogics, Inc.
Xyplex, Inc.
Z-CODE Software Corporation
Zenith Electronics Corporation

Partial list as of 21 March 1993

INTEROP® 93
AUGUST

"I know it works, I saw it at INTEROP"

**25-27 August 1993, Moscone Center,
San Francisco, CA**

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL
FIRST CLASS MAIL PERMIT NO. 166 MT. VIEW, CA

POSTAGE WILL BE PAID BY ADDRESSEE

INTEROP COMPANY
480 SAN ANTONIO ROAD
MOUNTAIN VIEW, CA 94040-1219

We are so confident we can beat or meet any advertised price - call us last!

CONFIGURE YOUR OWN SYSTEM

WE BUILD TO PLEASE YOU

ALL SYSTEMS ARE BURNED IN FOR 72 HOURS • 100'S OF SYSTEMS DELIVERED MONTHLY

MULTIMEDIA SPECIAL 486/33

- 486/33DLC Motherboard
- Multimedia Package
- CD ROM, Sound Card, 5 Titles
- 1.2 & 1.44 Floppy Drive
- 4MB of RAM
- 170MB Hard Drive
- SVGA Video Card 1MB
- SVGA Monitor .28 NI
- 101 Spill Proof Keyboard
- Desktop Case with Speakers & Amplifier

$1599

MULTIMEDIA 50MHz IBM

- 486/50SLC IBM Board/CPU
- Multimedia Package
- CD ROM, Sound Card, 5 Titles
- 4MB RAM
- 1.2 & 1.44 Floppy Drives
- 120MB Hard Drive
- SVGA Video Card 1 MB
- SVGA Monitor .28
- 101 Spill Proof Keyboard
- Desktop Case with Speakers & Amplifier

$1699

MULTIMEDIA 386/40MHz

- 386/40DX Motherboard
- Multimedia Package
- CD ROM, Sound Card, 5 Titles
- 4MB RAM
- 1.2 & 1.44 Floppy Drives
- 80MB Hard Drive
- SVGA Video Card 1 MB
- SVGA Monitor .39
- 101 Spill Proof Keyboard
- Desktop Case with Speakers & Amplifier

$1399

STARTER SYSTEM 386/40DX

- 386/40DX Motherboard
- 4MB of RAM
- 1.2 and 1.44 Floppy Drive
- 120MB Hard Drive
- SVGA .28 Monitor
- SVGA 1MB Card
- 101 Spill Proof Keyboard
- Mini Tower or Desktop

$955

Pick And Choose And Configure Your Own System

All Systems Include:

- 4MB of RAM
- One-5 1/4" HD Floppy Drive
- One-3 1/2" HD Floppy Drive
- 2 Serial, 1 Parallel, 1 Game Port
- 101 Enhanced Keyboard
- Choice of Mini Tower or Desktop
- Microsoft Compatible Mouse

PART ONE

plus

Select your BOARD

486-66DX2 w/256K Cache	$950
486-50DX w/256K Cache	$870
486-50DX2 w/256K Cache	$835
486-33DX w/256K Cache	$720
486-33DLC w/256K Cache	$585
486-25DX w/256K Cache	$615
386-40DX w/64K Cache	$475
386-33DX w/64K Cache	$460
386-40SX Non Cache	$420
286-20MHz Non Cache w/2MB	$335

LOCAL BUS SYSTEM UPGRADE

Controller	+$35
Motherboard (386/486 or DLC)	+$55

PART TWO

plus

Select your VIDEO CARD AND MONITOR

Monochrome 14"	$95
VGA .41 w/256K 14"	$225
SVGA .39 w/512K 14"	$240
SVGA .28 w/1MB 14"	$295
SVGA .28 NI w/1MB	$335

ACCELERATOR CARD UPGRADE
1MB VERSION ONLY

Paradise WD31C	+$50
Speedstar 24X	+$85
Diamond Stealth	+$145
32 Bit Local Bus SVGA	+$55

PART THREE

Select your HARD DRIVE

40MEG IDE	$120
80 MEG IDE	$170
120 MEG IDE	$190
170 MEG IDE	$220
200 MEG IDE	$255
250 MEG IDE	$285
340 MEG IDE	$375

SEAGATE - CONNER
MAXTOR
WESTERN DIGITAL

ADDITIONAL FEATURES TO CHOOSE FROM:

UPGRADES

Cases Upgrade	CALL
486 CPU Fan	ADD $12
Install 2400 Baud Modem	ADD $28
Install 96/24 Fax Modem	ADD $45
Install 96/14.4 Fax Modem	ADD $175
Install Colorado Backup 120	ADD $155
Install Colorado Backup 250	ADD $205
Install Additional RAM 1MB	ADD $39

TOTAL YOUR SYSTEM

By Adding Parts 1-3
And Any Other Add's On This Page

PART ONE________
PART TWO________
PART THREE________
OTHER________
OTHER________
OTHER________
OTHER________
TOTAL:________

Plus Sales Tax
* Prices May Change Without Notice.
* Call For Latest Prices.

CD ROM's From	$225
Sound Cards From	$80
Scanners	CALL
Software	CALL
Accessories	CALL

CALL FOR ALL YOUR COMPUTER NEEDS

PANASONIC BLOW OUT

KX-P1180	$149
KX-P2123	$219
KX-P1124I	$239
KX-P2624	$299

2ND INVENTORY
MANY OTHER BRANDS AND MODELS AVAILABLE

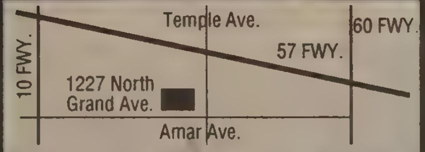
WARRANTY:

- ONE YEAR PARTS & LABOR
- FREE TECHNICAL SUPPORT FOR AS LONG AS YOU OWN YOUR COMPUTER
- ON SITE SERVICE AVAILABLE

AiO
SINCE 1985

ALL IN ONE COMPUTER CENTER

Ph. (909) 468-1145
Fax (909) 468-1146
Mon.-Fri. 10am-7pm Sat. until 6pm



1227 N. Grand Ave.
In the City of Walnut (across from Mt. SAC)
Next to the City of Industry

continued from page 38

in that country.

A few months ago, we described a similar—but far smaller scale—effort directed at California's Paiute Indian Reservation in Bishop. A clear trend is being established, and we expect many more such projects to come to light in the months and years ahead.

HOME OFFICE TECHNOLOGY SHOW SCHEDULED FOR SAN JOSE IN AUGUST

More than fifteen thousand telecommuters and people using home office technology are expected to attend the Home Office Technology and Exposition scheduled for August 24th and 25th at the San Jose Convention Center. This is one of the first expositions and conventions to focus on the twin topics of telecommuting and working at home. Admission is free.

Unlike most such conferences and expositions, which tend to emphasize technology and computer devices, this show is attempting to bring together speakers, telecommuters, and company decision-makers in a way that de-emphasizes equipment and promotes the increased acceptance of this method of accomplishing work.

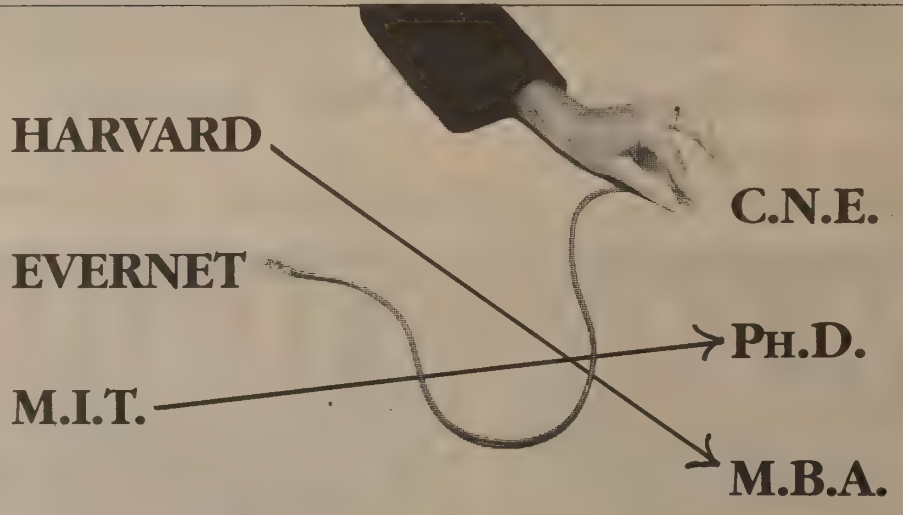
There's also a Telecommuting Management Conference with speakers and consultants (possibly including your intrepid reporter) offering useful information on how to move a company toward a successful telecommuting environment. The educational "tracks" around which presentations are organized will include: Telecommuter Empowerment, Home-Based Business Solutions, Products for the Home Office Market, and—for vendors in attendance—Marketing to the Home Office Buyer.

For more information on either conference, contact: Future Expositions at (408)369-7744, or fax them at (408)369-1065.

NEW REPORT DETAILS SAVINGS GAINED BY TELECOMMUTING TO MEETINGS

A series of dramatic new developments in Southern California give strong hints as to what lies ahead for telecommuting within governmental agencies. A report submitted after the first year of the Telecommunications For Clean Air Project points out that local governments are going to such drastic measures as closing their offices or reducing their services every other Friday, and in most cases are doing so without any evidence that compressed work weeks will cut costs. Apparently, mid-level civil servants prefer these draconian measures—even though they typically hate to solve problems by realigning work weeks—over trying to accomplish significant cost savings without cutbacks in service through telecommuting. But the evidence is growing that telecommuting saves money—lots of it!

Not yet made public, the Telecommunications For Clean Air report is said to estimate that each year government workers in just Los Angeles, Orange, Riverside, and San Diego counties spend


HARVARD
EVERNET
M.I.T.
C.N.E.
PH.D.
M.B.A.

MAKE THE OBVIOUS CONNECTION

If you are looking for the best way to learn all about the Novell Certified NetWare® Engineer degree, make it simple on yourself - call the leader - Evernet Education Services. Evernet Education is the most highly respected national LAN training company. Why? One reason is that we are part of Control Data Systems Inc. - the nation's premiere integration company. So you know you are getting instructors who bring the experience gained in thousands of successful installations into classrooms that are furnished with the finest equipment available.

Call today for all the details on the great new things that are coming up in this year.

We're so sure that you will get the finest training anywhere, we offer this guarantee on all of our courses. If an Evernet student fails to pass any of the certification testing we welcome them back to review the appropriate course at no additional cost

GUARANTEED CONTROL DATA SATISFACTION

Novell Authorized Education Center

CALL TODAY 1-800-447-3658

EVERNET
EDUCATION SERVICES
A Division of Control Data Systems Inc.
Los Angeles • San Francisco • Sacramento • Chicago

ADVANCED COMPUTER CENTER

WE BEAT ANY PRICE !!! **

M / B	MAIN UNIT	MAIN + 80MB 14" VGA & CARD	MAIN + 120MB 14" VGA & CARD	MAIN + 170MB 14" VGA & CARD	MAIN + 200MB 14" VGA & CARD	MAIN + 240MB 14" VGA & CARD
EISA486DX2-66	$867	$1332	$1362	$1387	$1424	$1464
EISA486DX50	$827	$1292	$1322	$1347	$1384	$1424
EISA486DX2-50	$767	$1232	$1262	$1287	$1324	$1364
EISA486DX33	$627	$1092	$1122	$1147	$1184	$1224
VESA486DX2-66*	$882	$1347	$1377	$1402	$1439	$1479
VESA486DX50*	$784	$1249	$1279	$1304	$1341	$1381
VESA486DX2-50*	$757	$1222	$1252	$1277	$1314	$1354
VESA486DX33*	$647	$1112	$1142	$1167	$1204	$1244
ISA486DX2-66	$827	$1292	$1322	$1347	$1384	$1424
ISA486DX50	$747	$1212	$1242	$1267	$1304	$1344
ISA486DX2-50	$727	$1192	$1222	$1247	$1284	$1324
ISA486DX33	$597	$1062	$1092	$1117	$1154	$1194
ISA386DX40	$341	$806	$836	$861	$898	$938

MAIN UNIT : CPU, 1MB RAM, 1.44 OR 1.2 FDD, MINI TOWER CASE, 200W POWER SUPPLY IDE 2FDD/2HDD 2S 1P 1G, INT CLOCK & CALENDAR, 101 KEYBOARD.

*VESA WITH STANDARD 3-VESA-SLOT. NOT A 2-SLOT NON-STANDARD BOARD.

SATURDAY & SUNDAY SYSTEM UPGRADE SPECIAL
FREE TECHNICAL SUPPORT & LABOR

3% CASH DISCOUNT

MULTI-MEDIA SPECIAL

MD-801 Mono S.B. 2.0 Compatible	$45
MD-601 Stereo S.B. Pro Compatible	$95
GM-32VB Adlib, S.B., Windows Sound, ROLAND Compatible	$250
PCD-GM 16 Bit Synthesizer	$155
DX-401 MPU-401 Compatible	$49
AD-Card Ad-IID Compatible	$38
FREE SET OF SPEAKER WITH PURCHASE	
PP-12MS HI-POWER SPEAKER ADD	$40
CD ROM PANASONIC	CALL
CD ROM MITSUMI	CALL

VOICE MAIL SYSTEM

TALKS COMMUNICATION CARD INCLUDING FAX, MODEM, AUTOATTENDENT, VOICE MAIL, FAX ON DEMOND,LINE SPLITTER, TELEPHONE SWITCHER, SCHEDULERPAGER ALERT, SCANNER ON FAX MACHINE ROLODEX, 11 FUNCTIONS ALL IN ONE CARD

FREE WINFAX SOFTWARE & SPEAKER

VS-301 TALKS VMS 14.4	$399
VS-201 TALKS VMS	$220
VS-102 TALKS 2000	$159
VS-501 TALKS 100	$99

FAX MODEM, NETWORK

2400bps MODEM	$34
2400 / 4800 / 9600 MODEM/FAX	$45
14.4 FAX / MODEM Internal	$169
14.4 FAX / MODEM External	$185
Novell V3.XX NETWORK STATION	
NE2000 Compatible ETHERNET Card	$45
VESA ETHERNET Card	$250

NETWORKING SETUP WELCOME, FREE ESTIMATE.

SAGER NOTEBOOK, SUB-NOTEBOOK

HI-PERFORMANCE & LOW PRICE LEADER

MODEL		80MB	200MB	540MB
NP206	486DX-33, 4MB, MONO	$1,735	$1,860	$2,365
NP206T	486DX-33, 4MB, ACTIVE COLOR	$2,435	$2,540	$3,065
NP207	486SX-25, 4MB, MONO	$1,515	$1,640	$2,145
NP209	486DX2-50, 4MB, MONO	$1,935	$2,060	$2,565
		80MB	120MB	180MB
NP740	486SX-25, 4MB, MONO	$1,670	$1,735	$1,860
NP741S	486SX-33, 4MB, PASSIVE COLOR	$2,360	$2,425	$2,550
NP743S	486SX-25, 4MB, PASSIVE COLOR	$2,480	$2,545	$2,670
NP746T	486DX2-66, 4MB, ACTIVE COLOR	$3,730	$3,795	$3,920
		120MB		180MB
NP840	486SX-25, 4MB, MONO	$1,835		$2,080
NP843S	486DX-33, 4MB, PASSIVE COLOR	$2,645		$2,890
NP846T	486DX2-66, 4MB, ACTIVE COLOR	$3,885		$4,130
		80MB	120MB	200MB
NP925	386SXL-25, 2MB, MONO	$1,205	$1,280	$1,410
NP933	386DXL-33, 4MB, MONO	$1,305	$1,380	$1,510
NP942	486SLC-25, 4MB, MONO	$1,355	$1,430	$1,560
NP943C	486DX-33, 4MB, PASSIVE COLOR	$2,205	$2,280	$2,410
NP946	486DX2-66, 4MB, MONO	$1,955	$2,030	$2,160
SUB-NOTEBOOK ONLY 4LBS!!!		80MB		120MB
NP433	486SLC-33, 4MB, MONO	$1,445		$1,500

Too many to list, please call for detail.

ADD-ON CARD & ACCESSORIES

Cirus Logic 16.8M Color Accelerator		$CALL
VESA Local Bus Diamond 1MB SVGA		$CALL
VESA Local Bus IDE AT I/O 2S, 1P, 1G		$CALL
ACCESSORIES		
Colorado Tape Backup		$CALL
MIDI Case W/ Speakers & Amp Build In		$CALL
Over 100 Trainning Video Tapes	From	$24.95

Please call for bast price and get our full line catalog.

REPAIR CENTER TAKE YOUR BREATH AWAY
FREE ESTIMATE AND 3-DAY TURN AROUND

ALL SYSTEMS BURN OVER 48 HRS BEFORE SHIP.
RETURN ITEM CHARGE 15% RESTOCKING FEE WITHIN 14 DAYS AFTER PURCHASE. AFTER 14 DAYS NO RETUND OR CREDIT.
ALL SYSTEMS & PARTS COME WITH ONE YEAR FACTORY LIMITED WARRANTY. (PARTS & LABOR) SEE DETAIL IN STORE.

** Price comparison based on this month's MICROTIMES issue.

OPEN DAILY 10:00AM TO 8:00PM

ADD: 645 E. COLORADO BLVD.
PASADENA, CA 91101
TEL: 818 - 795 - 3939
FAX: 818 - 795 - 0495
(BETWEEN LAKE AVE. AND
LOS ROBLES AVE.)
FREE PARKING IN REAR

about $1 billion out of their own pockets for "travel to work" from home. In addition, the local governments in this area spend an additional $110 million for employee "travel from work" to meetings held outside their respective governmental districts (usually related to agencies made up of more than one local government).

The same report discusses a series of demonstrations with audio conferencing and computer conferencing which seem to show that substituting telecommuting for travel just to these intergovernment meetings could save about $50 million per year. This level of savings would offset the cost of the required teleconferencing equipment in just three to six months!

During the coming year, the Telecommunications For Clean Air Project will be running a "facilities sharing" demonstration project to investigate to what extent telecommuting can reduce the $1 billion in private "travel to work" expenditures. Obviously, providing an environment in which employees substantially reduce their personal "travel to work" expenditures counts as an important employee benefit and may even help justify slower salary growth.

THE TELECOMMUTING ADVISORY COUNCIL ADOPTS A FORMAL ORGANIZATIONAL SCHEME

Long established as an ad hoc collection of telecommuting pioneers and proselytizers, the Telecommuting Advisory Council (TAC) has recently reorganized itself as a formal organization with tax-exempt status and—you guessed—annual dues.

With 129 paid-up members, so far, TAC is offering a vigorous program of formal and informal contacts between members, and opportunities for those interested in telecommuting to connect with experts in the field.

The current program calls for at least four national teleconferences, during which participants listen to reports from all over the US on the latest developments and most current projects in telecommuting. There will also be mailings of news notes, press clippings, and other informative readings. Some members are hoping to organize a face-to-face conference in 1994, to include formal presentations of white papers as well as panel discussions of topics of interest. There may also be regular sharing of information with the European Community Telework Forum.

Local chapters have been organized in Sacramento, San Francisco, Los Angeles, Orange County, San Diego, and other major metropolitan areas outside California, including Atlanta, Chicago, Denver, Minneapolis, the Mid-Atlantic region, Olympia/Puget Sound, and Phoenix. A few members are based in Australia, Canada, Japan, New Zealand, Norway, and the United Kingdom. This is truly an exciting and vibrant organization.

As early as August, TAC may sponsor an informal, two-day workshop on how-to issues related to telecommuting. For more information on any of this, fax an inquiry to: (310)476-6007. ■

"FREDDY"
Accounting & Inventory Control Software

He is Working at a Computer Near You!

- **Serial Number Inventory Control**
    - Kit, Component, and Parts
    - Manual or Automatic Assign
    - Track Shipment & Receipt
- **RMA Management with Serial Number Tracking**
    - Warranty Information
    - RMA Status
    - Return Analysis
- **Kit/Component Assembly**
    - Assemble Up to 99 Level
- **Multiple Inventory Location & Stock Type**
    - A,B, Tech & RMA Stock Type for Each Location
- **Automatic Calculation of UPS Freight Charges**
- **On-Line Inventory, Customer & Vendor Inquiry**
- **Inventory Costing, Status & Turnaround Analysis**
- **Profit Margin Calculation & Sales Commission Analysis**
    - Automatically Calculate Your Profit Margin & Sales Commission from One of the Many Methods Available
- **Complete Purchasing, Order Entry & Invoicing System**
- **General Ledger, Accounts Payable & Payroll Capability**
- **Perfect Software Solutions for Manufacturing & Distribution Management**
- **Optional Source Code Available**
    - Tailor System to Your Business Needs

With Software this Good, Take Advantage of it, Discover the Joy

Get More Out Of Your Business, Maximize Your Potential

So Powerful, So Flexible, So Friendly, So Call! Demo Available

ASIFIL Corporation
8808 Mission Drive, Suite 203
Rosemead, CA 91770
(818) 286-1272

Low Priced & Quality You Can Trust.

CALL FOR DEALER PRICES!

SPECIAL
IBM 8513
640 x 480 .26dpi
VGA Color
Monitor
$145

HOT DEALS!

ZENITH NOTEBOOK

- Zenith 486SX-25
- 4MB RAM
- 120MB HDD
- VGA Display
- 1 Year Factory Warranty
- Carrying Case

$1299

SCANNERS Relisys Cold Scan

- Full Page Flat Bed Color Scanner
- 600 x 600dpi
- Dust-Free Scanning
- Word Scan + Picture Publisher Software Included

$749

ZENITH 386SL-25MHz NOTEBOOK

- 80MB Hard Drive
- 2MB RAM
- 1 Year Factory Warranty
- Carrying Case

$899

SPECIAL
PRIMERA COLOR
LASER QUALITY
PRINTER
• 2.5ppm
• Thermal Transfer
$695

PRISM 386SX-33

- 386SX-33 Motherboard
- 2MB RAM
- 1.2 & 1.44 Floppy Drives
- 40MB Hard Drive
- 2S/1P/1G
- Super VGA Monitor
- Mini Tower Case w/200W PS
- 101 Enhanced Keyboard

$599
or $25/Per Month

PRISM 386DX-40

- 386DX-40 Motherboard
- 128K Cache
- 2MB RAM
- 1.2 & 1.44 Floppy Drives
- 85MB Hard Drive
- 2S/1P/1G
- SVGA Monitor
- Mini Tower Case w/200W PS
- 101 Enhanced Keyboard

$699
or $27/Per Month

PRISM 486-33

- 486-33 Motherboard
- 4MB RAM
- 1.2 & 1.44 Floppy Drives
- 130MB Hard Drive
- 2S/1P/1G
- SVGA Monitor
- SVGA (1MB) Card
- Mini Tower Case w/200W PS
- 101 Enhanced Keyboard
- Cyrix Processor

$899
or $39/Per Month

PRISM 486DX-33 VESA Local Bus

- 486-33 Motherboard Intel CPU
- 256K Cache
- AMI BIOS
- 1MB 32 Bit Local Bus SVGA Card
- 4MB RAM
- 1.2 & 1.44 Floppy Drives
- 130MB Hard Drive
- 2S/1P/1G
- SVGA Monitor NI
- Mini Tower Case w/200W PS
- 101 Enhanced Keyboard

$1199
or $45/Per Month

PRISM 486DX-50

- 256K Cache, Intel CPU
- AMI BIOS
- 4MB RAM
- 1.2 & 1.44 Floppy Drives
- 245MB Hard Drive
- 2S/1P/1G
- SVGA Monitor NI
- Full Tower Case w/250W PS
- 101 Enhanced Keyboard

$1399
or $52/Per Month

PRISM 486DX2-66 VESA LOCAL BUS

- AMI BIOS
- 486DX2-66MHz w/256K Cache
- 4MB RAM
- 250MB Hard Drive
- 1.2 & 1.44 Floppy Drive
- 1MB SVGA Card 32 Bit VLB
- 32 Bit IDE Controller
- 14" SVGA 0.28, Non-Interlaced Monitor
- Full Tower Case w/250W PS
- 101 Enhanced Keyboard

$1599

HARD DRIVES

Seagate 351 A/X (40MB)	$115
TEAC (105MB)	$130
Maxtor 7120 (130MB)	$180
Conner (174MB)	$195
Maxtor 7245 (250MB)	$230
Maxtor (340MB)	$299
Conner (40MB, 80MB, 120MB)	CALL
Quantum (105MB, 120MB, 240MB)	CALL

MOTHERBOARDS

486DLC-33MHz w/CPU	$210
486DX-33MHz w/CPU	$410
486DX-50MHz w/CPU	$550
386DX-40MHz w/CPU	$125
386SX-33MHz w/CPU	$80
486SX-50MHz w/CPU	$155

TAPE BACK-UP

Colorado 120MB	$165
Colorado 250MB	$195
Archive 250MB	$195

CD ROM DRIVE

Mitsumi CD ROM + Kit	$185

LASER PRINTERS

OKIDATA®

Best Buy!

OKIDATA® OL400*

- 4ppm, 300dpi page printer, publication quality output
- 17 fonts included, more standard typefaces than LaserJet IIP
- HP Series II compatible
- 5 year print head warranty with toner

$469** or $18/mo.

New! OKIDATA® OL830*

- Adobe Postscript*
- 8ppm for high productivity page printer
- 17 scalable fonts
- 2MB memory for full page graphics with Toner

$895 or $40/mo.

New! OKIDATA® OL810*

- 8ppm page printer
- 300 x 1200dpi
- PCL5
- 42 fonts with toner

$885

***Laser Printer Class**

**With $50
Mail-in Rebate

LOW PRICED NOTEBOOKS

DESCRIPTION	80MB	120MB	200MB
NP 925 (386SXL-25)2MB RAM	$1150	$1275	$1425
NP 933 (386DXL-33) 4MB RAM	$1250	$1375	$1525
NP 942 (486SLC-25) 4MB RAM	$1299	$1399	$1575
NP 943 (486DX-33) 4MB RAM	$1599	$1699	$1855
NP 943C (486DX-33)4MB RAM/Color	$2099	$2165	$2250
NP 946 (486DX2-66) 4MB RAM	$1799	$1899	$1999

MONITORS

IBM VGA Color 8513	$135
Edison SVGA .28 1024x768	$225
Edison SVGA .39	$210
Sunshine SVGA (Non-Interlaced)	$245
Viewsonic	CALL
Sony	CALL

3 Months Same As Cash -
Call for Details
FINANCING AVAILABLE

MICRO AMERICA, INC.

We Will Beat Any Advertised Price!

Phone: 714/256-0695 • Fax: 714/256-1546 • 266 Viking Ave., Brea, California 92621

Prices Subject to Change Without Notice.

COMP BUSINESS

LOW PRICES AND GREAT SERVICE

Master EISA VLB Combo

- 256K Cache RAM, 8MB RAM(70ns)
- P24T ZIF Socket, 3 EISA, 2VLB Slots
- 1.2 MB & 1.44 MB Floppy Drive
- 245 MB 15MS IDE Hard Drive
- Fast VESA LB IDE Controller (50x faster than standard controller)
- Super VESA LB Accelerator Video (16.8M Color & Up to 1280x1024)
- 15" VESA Color SVGA NI Monitor (Edge to Edge Viewing, Low Radiation, Digital Control)
- 2 Serial, 1 Parallel, & 1 Game Port
- Enhanced 101 Keyboard
- Desktop or 7 Bay Vertical Case
- Free Hi Res 1450 DPI Mouse

486/33 MHz	$1810
486/50 MHz DX2	$1950
486/66 MHz DX2	$2040
Vesa LB S3 805 Video Card	Add $80
Optional 10 Bay Case With 2 Fan for $115	
Focus 9000 Keyboard	Add $55

Master Media

BEST BUY

- 128K Cache RAM, 4MB RAM(70ns)
- P24T ZIF Socket, 2 VLB Slots
- CD ROM, Sound Card, 2 Speakers, 4 CD Titles
- 1.2 MB & 1.44 MB Floppy Drive
- 170 MB 15MS IDE Hard Drive
- Fast VESA LB IDE Controller
- 14" VESA Color SVGA NI Monitor
- Super VESA LB Accelerator Video (16.8M Color & Up to 1280 x 1024)
- 2 Serial, 1 Parallel, & 1 Game Port
- Enhanced 101 Keyboard
- Desktop or 7 Bay Vertical Case
- Free Hi Res 1450 DPI Mouse

486/33 MHz	$1680
486/50 MHz DX2	$1820
486/66 MHz DX2	$1910
Heat Sink w/Fan	Add $25
96/24 Fax Modem	Add $65
2400 Modem	Add $45
DOS & Windows in package	Add $90

Super VLB CAD Station

- 256K Cache RAM, 8MB RAM (70ns)
- P24T ZIF Socket, 2 VLB Slots
- 1.2MB & 1.44MB Floppy Drive
- 340MB 15MS IDE Hard Drive
- Super Fast VESA LB IDE Controller w/2MB RAM Cache
- Diamond Viper 2MB VLB Video
- 17" VESA Color SVGA NI Monitor (Low Radiation Monitor, Digital Control)
- 2 Serial, 1 Parallel, 1 Game Port
- Enhanced 101 Keyboard
- Desktop or 7 Bay Vertical Case
- Free Hi Res 1450 DPI Mouse

486/33 MHz	$2680
486/50 MHz DX2	$2820
486/66 MHz DX2	$2910
CalComp 12" x 12" Digitizer	Add $295
520MB Hard Drive	Add $360

Super EISA SCSI

- 256K Cache RAM, 8MB RAM(70ns)
- 1.2MB & 1.44MB Floppy Drive
- 245MB 15MS SCSI Hard Drive
- Super Fast VLB SCSI Controller
- Super VLB S3 805 Accelerator Video (Win Mark 50-Up to 1280 x 1024)
- 15" VESA Color SVGA NI Monitor (Edge to Edge Viewing, Low Radiation, Digital Control)
- 2 Serial, 1 Parallel, 1 Game PORT
- Enhanced 101 Keyboard
- Desktop or 7 Bay Vertical Case
- Free Hi Res 1450 DPI Mouse

486/33 MHz	$1970
486/50 MHz DX2	$2110
486/66 MHz DX2	$2200
340MB SCSI Hard Drive	Add $150

VESA Local Bus PRO

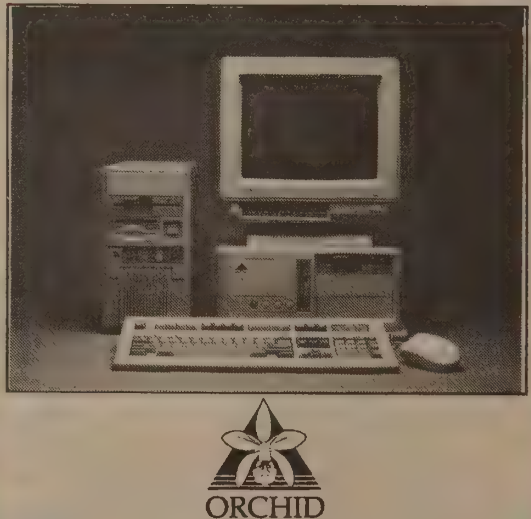
- 64K Cache RAM, 4 MB RAM(70ns)
- 1.2 MB & 1.44 MB Floppy Drive
- 170 MB 15MS IDE Hard Drive
- Fast VESA LB IDE Controller
- Super VESA LB Accelerator Video (16.8M Color & Up to 1280x1024)
- 14" VESA Color SVGA NI Monitor
- 2 Serial, 1 Parallel, & 1 Game Port
- Enhanced 101 Keyboard
- Desktop or 5 Bay Vertical Case
- Free Hi Res 1450 DPI Mouse

486/33 MHz	$1330
486/50 MHz DX2	$1450
486/66 MHz DX2	$1560
Ultra 34F SCSI Controller	Add $220
ZIF Socket	Add $35
EISA VLB Motherboard	Add $85

Super VLB Station

- 128K Cache RAM, 4MB RAM (70ns)
- P24T ZIF Socket, 3 VLB Slots
- 1.2 MB & 1.44 MB Floppy Drive
- 250 MB 15MS IDE Hard Drive
- Fast VESA LB Controller
- Super VESA Accelerator Video (16.8M Color & Up to 1280X1024)
- 15" VESA Color SVGA NI Monitor (Edge to Edge Viewing, Low Radiation, Digital Control)
- 2 Serial, 1 Parallel, & 1 Game Port
- Enhanced 101 Keyboard
- Desktop or 7 Bay Vertical Case
- Free Hi Res 1450 DPI Mouse

486/33 MHz	$1580
486/50 MHz DX2	$1720
486/66 MHz DX2	$1810
17" Digital Color SVGA Monitor	Add $395
Focus 2001 Keyboard	Add $35
340MB Hard Drive	Add $75



ORCHID

ISA Station

- 4 MB RAM(70ns)
- 1.2 MB & 1.44 MB Floppy Drive
- SVGA 1 MB w/16 Mill Colors Accelerator Video
- 14" VESA Color SVGA Monitor
- 2 Serial, 1 Parallel, & 1 Game Port
- Enhanced 101 Keyboard
- Desktop or 5 Bay Vertical Case
- Free Hi Res 1450 DPI Mouse

486/33 MHz w/170MB	$1210
486/50 MHz DX2 w/170MB	$1330
486/50 MHz w/170MB	$1380
486/66 MHz DX2 w/170MB	$1450
486/40 MHz DLC w/170MB	$1090
486/33 MHz SX w/170MB	$1030
386/40 MHz w/85MB	$900
386/33 MHz SX w/85MB	$870
170MB to 250MB	Add $35
85MB to 120MB	Add $45

NOVELL
CALL
(818)960-1933

WE SUPPORT LANTASTIC & NOVELL NETWORK INSTALLATION

QUALITY COMPUTERS, INC.
13001 RAMONA BLVD. #C, IRWINDALE, CA 91706
SALES (818) 960-1933 TECH SUPPORT (818) 960-6093
BUSINESS HOURS: MONDAY-FRIDAY 9:00-6:00 SATURDAY 10:00-4:00

ROYAL COMPUTER
1201 JOHN REED CT., CITY OF INDUSTRY, CA 91745
SALES (818) 333-7628 TECH SUPPORT (818) 333-2566
BUSINESS HOURS: MONDAY-FRIDAY 7:30-6:00 SATURDAY 7:30-5:00

LETE SOLUTIONS

PERIPHERALS

MOTHERBOARDS

ZIF VLB 33MHz w/128K Cache & CPU	$460
ZIF VLB 50MHz DX2 w/128K Cache & CPU	590
ZIF VLB 66MHz DX2 w/128K Cache & CPU	705
Upgrade ZIF EISA VLB w/256K	**Add 85**
VLB 486 33MHz w/64K & CPU	440
VLB 486 50MHz DX2 w/64K & CPU	570
VLB 486 66MHz DX2 w/64K & CPU	680
Upgrade EISA VLB w/256K	**Add 85**
ISA 286 20MHz w/CPU	45
ISA 386 33MHz SX w/CPU	85
ISA 386 40MHz w/64K & CPU	150
ISA 486 40MHz DLC w/64K & CPU	320
ISA 486 25MHz SX w/CPU	205
ISA 486 33MHz SX w/CPU	235
ISA 486 33MHz w/64K & CPU	395
ISA 486 50MHz DX2 w/64K & CPU	525
ISA 486 50MHz DX w/64K & CPU	555
ISA 486 66MHz DX2 w/64K & CPU	645

VIDEO CARDS

MGP	$15
VGA 256K 16 Bit	35
VGA 512K 16 Bit	45
SVGA 1MB 16 Bit Trident	60
Acumos SVGA 1MB Accelerator w/16 Mill Colors	70
PVGA 1MB Win Accelerator	**125**
Diamond Stealth 24 ISA	**185**
Diamond Stealth Vesa Local Bus	**215**
Diamond Viper 2MB RAM	**410**
ATI Graphic Vantage	130
ATI Graphic Ultra Plus 1MB	320
ATI EISA VLB PRO 2MB	**620**
ATI Graphic Ultra Pro 2MB	**430**
ATI Vesa Local Bus Pro 2MB	**430**
Actix VESA Local Bus	165
STB VESA Local Bus	165
Orchid Fahrenheit S3-801 16 Mill Colors	**165**
Orchid Fahrenheit S3-805 Vesa Local Bus	**185**
Orchid Fahrenheit S3-805 VLB-VA	195
Orchid Celsius VLB Accelerator Card	360

HARD DRIVES

85 MB IDE	$170
125 MB IDE	**200**
170 MB IDE	**220**
210 MB IDE	**255**
245 MB IDE	**285**
340 MB IDE	**350**
520 MB IDE	**690**
1.2 GB IDE	**1195**
210 MB SCSI	310
245 MB SCSI	340
340 MB SCSI	490
520 MB SCSI	**690**
1.2 GB SCSI	1195
1.7 GB SCSI	1425
2.0 GB SCSI	2195

ADD ON CARDS

AT I/O (2S, 1P, 1G)	$18
RS 232 Port	15
Parallel Port	12
Game Port	12
Clock	12
Multi I/O for XT	25
Super Multi I/O for XT	35

FLOPPY DRIVES

1.2 MB	$52
1.44 MB	46
2.88 MB	**85**
1.2/1.44 MB on One FDD	**125**

CONTROLLERS

XT/AT 2FD	$25
IDE w/IO (2S, 1P, 1G)	25
IDE 2FD/2HD	18
IDE 4FD/2FD	35
IDE 2FD/2HD w/2MB Cache	**185**
IDE 3rd/4th FDD	45
IDE 2.88 MB 2FD/2HD	**60**
IDE 2.88 MB 4FD/2HD	**75**
DTC 2290 EISA IDE	105
DTC 3292 EISA SCSI	**310**
DTC 3290 EISA SCSI II Exp to 4MB	**400**
DTC 2270 VLB SCSI	110
Alpha Research VLB IDE w/2MB	265
Alpha Research EISA SCSI II	300
Alpha Research EISA SCSI II Exp to 16MB	380
Ultrastor 15C IDE Cache Controller	**210**
Ultrastor 14F SCSI Controller	**220**
Ultrastor 24F EISA SCSI	**360**
Ultrastor 34F VESA LB SCSI	**280**
Adaptec 1522 BK	160
Adaptec 1542 BK	250
Adaptec 1542 CK	275
Adaptec 1542 CK+	340
Adaptec 1742 AK	425
Vesa Local Bus Controller w/ I/O	**45**
VESA LB for 50MHz	**60**

MONITORS

14" 1024x768, .39 Dot	$230
14" 1024x768, .28 Dot	265
14" 1024x768, .28 Dot NI	290
14" 1024x768 (Edge to Edge Viewing)	320
CTX 1560 15" 1024x768, .28 Dot	430
CTX 1760 17" 1280x1024, .28 Dot	795
View Sonic 4 14"	290
View Sonic 5E 14"	380
View Sonic 6E 14"	315
View Sonic 6FS 15"	515
View Sonic 7 17"	880
View Sonic 8 20"	1550
View Sonic 15	550
View Sonic 17	1040
View Sonic 20"	1705
View Sonic 21	1890
Mag 1564 15"	440
Mag 15F 15"	550
Mag 17F 17"	960
NEC 3FGE 15"	625
NEC 4FGE 15"	740
NEC 5FGE 17"	1125
NEC 6FG 20"	2325
KFC 15" Digital Monitor 1280x1024	460
KFC 17" (1280x1024)	790
Mono 14" Monitor	105
Mono 14" SVGA	125

KEYBOARDS

BTC 101 Key	$25
Lite On/Chicony/Mitsumi 101 Key	30
Focus 2001	42
Focus 9000 Programmable	65
Keytronic 101 Key	45
Fujitsu 101K 4700	45
Northgate 101 Key	55
Northgate 102 Key	75
Northgate Omni Ultra 130 Key	95

ETHERNET CARDS

Ethernet 16 Bit Genesis	$80
Ethernet 16 Bit Novell	139
Intel Ether Express	139
16 Bit Western Digital	195
Ethernet 32 Bit Mylex	350
Ethernet 32 Bit Novell	689
Ethernet 32 Bit Vesa Local Bus	780
Artisoft AE-2 Starter Kit	489
Artisoft AE-2 Adapter	220

CD ROM

Texcel CD Rom	$460
Sony 31A 490MS	245
CD Rom Software Bundle w/5 Titles	105
Mutsumi CD ROM	**195**
Multimedia NEC 84 Upgrade Kit	950
Multimedia NEC 74 Upgrade Kit	1050
Media Vision Fusion CD 16 Package	495
Royal Super CD Package	395
Multimedia Creative Labs Upgrade Kit Package	595
Multimedia Creative Labs Starter Kit Package	495

ALL CD ROM PACKAGES-CALL FOR DETAILS!

MOUSE

Generic Mouse 3 Button	$18
Logitech Serial	68
Logitech Bus	78
MicroSoft Serial	60
MicroSoft Bus	80
Zenix Cordless Mouse w/Windows 3.1	**55**
Generic Track Ball	35
Logitech Trackball Serial	95
Logitech Trackball Bus	115

TAPE BACKUPS

Colorado 120 MB	$155
Colorado 250 MB	205
Archive 250 MB	185
Archive 525MB SCSI	525
120MB/250MB Tape Cartridges	24/27
Syquest 44MB SCSI Removable Drive	310
Syquest 88MB SCSI Removable Drive	375

CD TITLES

The Animals	25
Carmen San Diego	25
Compton's Encyclopedia	58
Encyclopedia	$52
Family Doctor	25
Jones in The Fast Lane	25
King Quest V	25
Loom	25
Microsoft Bookshelf, 7 Titles	69
MicroSoft Works	58
Mixed Up Mother Goose	35
Reference Library	25
Sherlock Holmes	35
Stellar 7	25
US Atlas w/Auto Map	28
US Atlas/World Atlas	25
US History	35
Wing Commander	25
4 Titles CD: US/World Atlas, Typing & Chessmaster	45

SOUND CARDS

Pro Audio Spectrum 16 Bit	$210
Sound Blaster	85
Sound Blaster Pro Basic	165
Sound Blaster ASP16	245
Sound Galaxy w/2 speakers	**110**
Pair of Stereo Speakers	20

DIGITIZERS

Summasketch 12x12"	$275
Kurta 12x12"	275
Calcomp 12x12"	285

MODEMS

2400 Internal/External	$45/65
96/24 VoiceCom Int/Ext	110/150
96/24 Internal/External	65/125
9600 Internal/External	180/220
14.4/14.4 Internal/External	215/255
14.4/14.4 VoiceCom Int./Ext.	255/295
With Window Fax	Add $15

ALL SYSTEMS CARRY A ONE YEAR PARTS • 72 HOUR BURN-IN TIME BEFORE SHIPPING & LABOR WARRANTY • LEASING AND FINANCING AVAILABLE • 14 DAY MONEY BACK GUARANTEE • PRICES SUBJECT TO CHANGE WITHOUT NOTICE

TERMS AND CONDITIONS: PERSONAL AND COMPANY CHECKS ALLOW TWO WEEKS TO CLEAR. ALL UPS SHIPPING CHARGES ARE NOT REFUNDABLE.

NOVELL
CALL
(818)960-1933

WE SUPPORT LANTASTIC &
NOVELL NETWORK
INSTALLATION

QUALITY COMPUTERS, INC.
13001 RAMONA BLVD. #C, IRWINDALE, CA 91706
SALES (818) 960-1933 TECH SUPPORT (818) 960-6093
BUSINESS HOURS: MONDAY-FRIDAY 9:00-6:00 SATURDAY 10:00-4:00

ROYAL COMPUTER
1201 JOHN REED CT., CITY OF INDUSTRY, CA 91745
SALES (818) 333-7628 TECH SUPPORT (818) 333-2566
BUSINESS HOURS: MONDAY-FRIDAY 7:30-6:00 SATURDAY 7:30-5:00

IBM
Business Partner

THINKPAD 300 386SL-25 MHZ
4 MB, 80 MB (#2615065)..................$ 1750.00

THINKPAD 700 486-SLC/25 MHZ
4 MB, 120 (#9552301)....................$ 2568.00

DigiBoard
AUTHORIZED RESELLER

DIGICHANNEL PC/4 16550 UARTS W/4
PORT DB25 MALE I/O CABLE..........$300.00

DIGICHANNEL PC/8 16550 UARTS W/8
PORT DB25 MALE I/O CABLE..........$460.00

DIGICHANNEL ISA C/16 RJ45 W/SURGE
SPRSN & FAULT TOLRNC............$ 1820.00

IBM Personal Printers by
LEXMARK™
AUTHORIZED RESELLER

MODEL 10R 4039 10 PPM, 4MB, PCL5,
POSTSCRIPT LEVEL I.......................$1369.00

MODEL 10D 4039 10 PPM, 2MB, PCL5,
DUPLEX..$1899.00

MODEL 12R 4039 12 PPM, 4MB, PCL5,
POSTSCRIPT....................................$1729.00

MODEL 12L 4039 12 PPM, 4MB, PCL5, POSTSCRIPT
LEVEL I.......................$2459.00

MODEL 16L 4039 16 PPM, 4MB, PCL5, POSTSCRIPT
LEVEL I.......................$2799.00

SCO™
AUTHORIZED
RESELLER

UNIX OPER. SYST. V3.2.4 MULTI.....$795.00

OPEN DESKTOP SYSTEM 2.0..........$1995.00

COMPAQ®
AUTHORIZED RESELLER

PROLINEA 4/33 4/120 MB
(#160100-006).................................$1575.00

PROLINEA 4/33 4/240 MB
(#160100-007).................................$1750.00

PROLINEA 4/66 4/340 MB
(#160150-403).................................$2335.00

PROLINEA CDS 120 MB
(#160900-002).................................$1640.00

DESKPRO 50M M240/W 8MB, 240 MB HD,
Q-VISION, AUDIO (#129400-006).......$1575.00

DESKPRO/M60 60MHZ PENTIUM,
16MB, 510 MB HD (#139200-004).......$1575.00

DPT
AUTHORIZED RESELLER

SMARTCACHE PLUS ISA/SCSI FLOPPY
CTR INCL SCSI KIT.......................$ 450.00

SMARTCACHE PLUS EISA/SCSI INCL
SCSI KIT.......................................$ 510.00

SMARTCACHE PLUS MODULE WITH
512K RAM....................................$ 410.00

PRICES SUBJECT TO CHANGE WITHOUT NOTICE. ONE YEAR WARRANTY ON PARTS AND TWO YEARS LABOR. IBM & COMPAQ PRODUCTS ARE THREE YEARS WARRANTY.

Computer
Technology
A-1
1987-1993

SATISFIED CUSTOMERS -

CAL-POLY (POMONA), JPL, ADRAYS, U.S. NAVY (PORT HUENEME)

9690 Telstar Ave, #202, El Monte, CA 91731
Tel: (818) 575-2882 Fax: (818) 575-8058

Trademarks or registered trademarks are property of their respective holders.

HARD DRIVES

1.2 Mb F.D. (Teac)	$50
1.44Mb F.D. (Teac)	$45
40 Mb IDE (Connor, 28 Ms)	$120
85 Mb IDE (Connor, 18 Ms)	$165
120 Mb IDE (Connor, 15Ms)	$185
210 Mb IDE(Maxtor, 15 Ms)	$220
245 Mb IDE (Maxtor, 15Ms)	$240
338 Mb IDE(Maxtor, 15Ms)	$350
1.2 Mb SCSI(Maxtor, 8.5 Ms)	$1400
1.7 Mb SCSI(Maxtor, 13 Ms)	$1350
255 Mb IDE(WD, 13 Ms)	$245
340 Mb IDE(WD, 13 Ms)	$350

ISA MOTHER BOARDS

386-40 Mhz W/128K Cache W/Cpu	$145
486-33 Mhz W/256K Cache W/ Cpu	$415
486-33 Mhz W/256K Cache DLC W/Cpu	$219
486-66Mhz W/256K Cache W/Cpu	$645
486-50Mhz W/256K Cache W/Cpu	$575

EISA MOTHERBOARD (A.I.R)

486-50Mhz W/256K Cache W/Cpu	$1125

VIDEO CARDS

Mono Graphics Card	$13
Svga Card (Trident, 1 Mb, 1024 x 768)	$55
Diamond 24x Hi-Color (1 Mb)	$165
Diamond Stealth 24 Hi-Color (1 Mb)	$175
Diamond Viper VLB (2 Mb)	$405
Orchid Fahrenheit VLB Svga Card (1 Mb)	$190
Orchid Fahrenheit VLB Svga Card(3 Mb)	$435
ATI Graphic Ultra (1 Mb Vram)	$250
ATI Graphic Ultra Pro (2 Mb)	$530
ATI Graphic Ultra Pro EISA (2 Mb)	$600
ATI Graphic Ultra Pro VLB (2 Mb)	$420

MODEMS

Smartlink 2400 Baud Modem	$35
Accex Fax/Modem (9600/2400 B)	$55
INTEL 14.4K Fax/Modem (400A)	$400

LOCAL BUS MOTHERBOARD (AMPTRON)

486-33 Mhz W/256K Cache W/Cpu	$455
486-66 Mhz W/256K Cache W/Cpu	$695

MONITORS

Tatung Monitor (14", 0.39 Dpi, 1024 x 768)	$220
Arcus Monitor (14", 0.28 Dpi, 1024 x 768)	$240
Arcus Monitor (14", 1024 x 768, N-I)	$285
Arcus Monitor (15", 1280 x 1024, N-I)	$435
Shamrock (14",1024x768,N-I)	$270
Mag Monitor (15", 0.28 Dpi, 1280 x 1024)	$540
Mag Monitor (17", 0.26 Dpi,1280 x 1024)	$950

PEER TO PEER LAN

INVISIBLE LAN - 200 Users Terminal Software,
- Two 16 Bits Ethernet Card
- 25' Coax Cable

$ 395

LOCAL BUS MOTHERBOARD (A.I.R)

486-33 Mhz W/256K Cache W/Cpu	$509
486-66 Mhz W/256K Cache W/Cpu	$739

LOCAL BUS EISA MOTHERBOARD (AMPTRON)

486-33 Mhz W/256K Cache W/Cpu	$539
486-66 Mhz W/256K Cache W/Cpu	$799

486 - 33 MHz SPECIALS

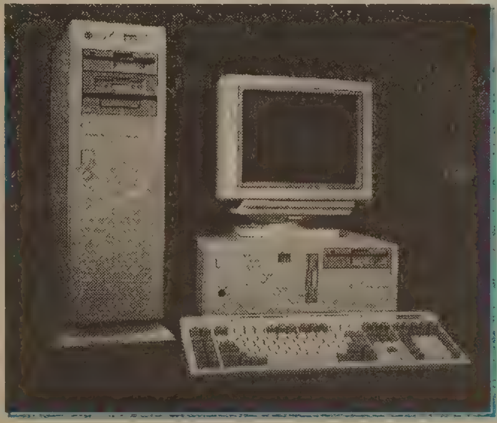
4 MB RAM
256 KB Cache
1.2 & 1.44 MB Floppy Drive
2S / 1P / 1G
120 MB IDE Hard Drive
Enhanced 101 Keyboard
Mini Vert. or Desktop0 Case
200 W. Power Supply
SVGA Card (1MB)
SVGA 1024 x 768 Monitor
Serial Mouse

$1195

486 - 50 MHz CAD Station

4 MB RAM
256 KB Cache
1.2 & 1.44 MB Floppy Drive
2S / 1P / 1G
210 MB IDE Hard Drive
Enhanced 101 Keyboard
Mini Vert. or Desktopl Case
SVGA Card (1 MB)
Arcus SVGA N-I 15" Monitor
(1280X1024 .28mm)
Serial Mouse

$1545



386 - 40 MHz W/128K Cache

4 MB RAM
256 KB Cache
1.2 & 1.44 MB Floppy Drive
2S / 1P / 1G
120 MB IDE Hard Drive
Enhanced 101 Keyboard
Mini Tower Case or Desktop
SVGA Card (1MB, 1024x 786)
SVGA Monitor (Arcus, .28,
1280X1024)
Serial Mouse

$935

486 - 66 MHz DX2 Station

8 MB RAM
256 KB Cache
1.2 & 1.44 MB Floppy Drive
2S / 1P / 1G
245 MB IDE Hard Drive
Focus 9000 Key Board
Full Size Vertical Case
230 W. Power Supply
ATI Graphic Ultra (1MB)
ARCUS 15" N-I Monitor
(1280X1024 0.28mm)
Serial Mouse

$2005

486DX(2) - 33/66 VLB EISA Standard

EISA Local Bus Mother Board
8 MB RAM
256 KB Cache
1.2 & 1.44 MB Floppy Drive
32 Bit VESA IDE HD & FD Controller
340 MB IDE Hard Drive
Vertical Case (230 W. P/S)
ATI Graphic Ultra Pro VLB VGA
(2 MB VRAM)
MAG 15" Non-Interlaced Monitor
(1280 X 1024, 0.28 DPI)
Serial Mouse
Focus 2001 Keys Key Board

$2195 / 2495

Pentium Overdrive Ready 486-33/66 MHz Vesa Local Bus

4 MB RAM
256 KB Cache
1.2 & 1.44 MB Floppy Drive
2S / 1P / 1G
210 MB IDE Hard Drive
Enhanced 101 Keyboard
Full Size Vertical Case (2 Cooling Fans)
Cirrus Logic Local Bus VGA Card
14" SVGA Monitor (1024 X 768 @ N - I)
Serial Mouse

$1345 / 1595

486DX - 50 EISA Intel EISA Controller Chipset

A.I.R. EISA Mother Board
16 MB RAM
256 KB Cache
1.2 & 1.44 MB Floppy Drive
2S / 1P / 1G
Maxtor 340 MB SCSI Hard Drive
ADAPTEC 1742 EISA SCSI Controller
Vertical Case (300 W. P/S)
ATI Graphics Ultra-ProEISA VGA
(2 MB VRAM)
MAG 17" Non-Interlaced Monitor
(1280 X 1024, 0.28 DPI)
Focus 9000 124 Keys Key Board

$4400

486DX(2) - 33/66 VLB VESA-VL Standard

A.I.R. Local Bus Mother Board
8 MB RAM
256 KB Cache
1.2 & 1.44 MB Floppy Drive
2S / 1P / 1G
250 MB IDE Hard Drive
Vertical Case (230 W. P/S)
2 Cooling Fans
Orchid Fahrenheit VLB VGA
(1 MB)
Focus 2001 Key Board
Serial Mouse
Arcus 15" SVGA Monitor (1280x1024)

$2185 / 2459

Computer Technology
A-1
1987-1993

9690 Telstar Ave, #202, El Monte, CA 91731
Tel: (818) 575-2882 Fax: (818) 575-8058

Trademarks or registered trademarks are property of their respective holders.

COMPUTER SUPPLY CLUB

FLOPPY DRIVES

TEAC 1.2	$53
TEAC 1.44	$46
TOSHIBA	$70

MICE

3 Button Mouse	$11
3 Button Trackball	$25
Microsoft Mouse	$77
Logitech Mouseman	$70
Logitech Trackman	$80

KEYBOARDS

BTC Enhanced 101 Key	$20
Focus FK-2001	$40
Keytronics 101 Enhanced	$40
Honeywell 101 Keyboard	$35

MATH CO-PROCESSORS

CYRIX 80387SX-25	$75
CYRIX 80387-40	$84⁵⁰

All Cyrix Are Downward Compatible

SOUND CARDS & SPEAKERS

Sound Blaster Pro Deluxe	$135
Sound-Deluxe	$89
Sound-16	$229
Labtec SS100	$18
Labtec Shielded SS700 w/ Equalizer	$32⁵⁰

CONTROLLER CARDS

IDE 2 Hard/2 Floppy	$12⁵⁰
IDE 2H/2F/2Ser/ 1 Par/1 Game	$15
I/O Card 2 Ser/ 1 Par/1 Game	$11

TAPE BACK-UPS

Colorado 120 MB (DJ-10)	$153
Colorado 250 MB (DJ-20)	$205
FC-10	$79
AB-11 Controller	$39
KE-09 External Kit	$74

HARD DRIVES

Western Digital 213MB	$298
Maxtor 130MB	$190
Maxtor 245MB	$275
Quantum 80MB	$165
Quantum 170MB	$225
Quantum 240MB	$312

CD ROMS

Pro Audio Fusion CD Kit	$475
CD Discovery, 8 bit	$400
CD Discovery, 16 bit	$460
CD Edutainment, 8 bit	$475
Mitsumi CD-350ms	$239

VIDEO CARDS

Monochrome Graphics Card	$12
Color Graphics Card	$16
16-bit VGA Card (256K) on board	$29
16-bit VGA Card (512K) on board	$39
16-bit VGA Card (1 MB) on board	$59
Diamond Stealth 24	$169

MONITORS

14" Paper White VGA	$107
14" VGA Monitor, .39	$209
14" VGA Monitor, N-I .28	$270
CTX 5468, N-I	$290
CTX 1461, N-I	$300

CASES

AT Jr for an XT with a 150 Watt PS	$48
Baby AT Case with a 200 Watt PS	$57
Mini Tower Case with a 200 Watt PS	$57
Mid Size Tower Case with a 230 Watt PS	$80
Full Size Tower Case with a 230 Watt PS	$95

MODEMS/FAX CARDS

2400 Modem w/Send Fax	$35
9600 Send/Receive Fax	$58
14.4 Fax	$165

BRAND NEW

DOS 6.0	$55
DOS For Dummies Books	$13⁹⁵

MOTHERBOARDS (all boards include CPU, BIOS & manuals)

386SX-33 (Exp. To 16MB)	$90
386SX-40 (Exp. To 16MB)	$100
386DX-40 w/64K Cache (Exp. To 32 Meg)	$140
386DX-40 w/256K Cache (Exp. To 32 Meg)	$150
486DX-33 w/256K Cache (Exp. To 32 Meg)(Intel)	$423
486DX-33 w/256K Cache (Exp. To 32 Meg)(Cyrix)	$310
486DX-50 w/256K Cache (Exp. To 32 Meg)(Intel)	$550

–CALL FOR LOCAL BUS BOARD PRICES–

386SX-33 SYSTEM

GOOD STARTER SYSTEM!

- Mini Tower Case or Desktop Case
- 2 MB RAM Installed
- Teac 1.2 or 1.44 MB Floppy Drives
- 2 Hard/2 Floppy Drive Controller
- 80387 Math Co-Processor Socket
- 256K VGA Video Card
- 1024x768 Super VGA Monitor
- Real Time Clock Calendar
- 2 Serial ports, 1 Parallel, 1 Game Port
- 101 Enhanced Keyboard

$550

ALL SYSTEMS COME WITH A 2 YEAR LABOR 1 YEAR PARTS WARRANTY

386DX-40 SYSTEM

Both Floppy Drives & 4MB

- Mini Tower Case or Desktop Case
- 4 MB RAM Installed
- 64K Cache Installed exp. to 256K
- Teac 1.2 & 1.44 MB Floppy Drives
- 2 Hard/2 Floppy Drive Controller
- 80387 Math Co-Processor Socket
- 1 MB Trident VGA Video Card
- 1024x768 Super VGA Monitor (.28)
- Real Time Clock Calendar
- 2 Serial ports, 1 Parallel, 1 Game Port
- 101 Enhanced Keyboard

$800

ALL SYSTEMS COME WITH A 2 YEAR LABOR 1 YEAR PARTS WARRANTY

486-33 SYSTEM

256 CACHE & BOTH FLOPPY DRIVES

- Mini Tower Case or Desktop Case
- 4 MB RAM Installed
- Teac 1.2 & 1.44 MB Floppy Drives
- 2 Hard/2 Floppy 1:1 IDE Controller
- Wietek Co-Processor Socket
- 1 MB Trident VGA Video Card
- 1024x768 Super VGA Monitor (.28)
- Real Time Clock Calendar
- 2 Serial ports, 1 Parallel, 1 Game Port
- 101 Enhanced Keyboard

$1050

CITIZEN PRINTER REPAIR STATION

FINANCIAL•SOUNDBLASTER•UTILITIES•OVER 500 DIFFERENT TITLES

SHAREWARE SOFTWARE

99¢ PER DISK

BUSINESS•ENTERTAINMENT•GRAPHICS•GAMES•COME SEE OUR LIBRARY

1MB-70ns SIMMS $36

4MB-70ns SIMMS $140

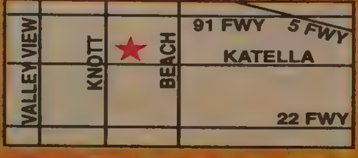
COMPUTER SUPPLY CLUB

(714) 821-1910

[illegible] Monday-Friday: 9-7, Saturday: 10-6, Sunday: 12-5

TERMS: We accept VISA, Master Card and Discover. No personal checks over $200 Availability and Prices subject to change without notice

[illegible] KATELLA, STANTON



New Products

NETWORK HARDWARE

HUB-820T ETHERNET REPEATER

The HUB-820T 10BaseT Ethernet Repeater utilizes the latest in Ethernet Repeater technology and provides connection to eight 10BaseT (twisted pair) ports. It is an IEEE 802.3 compliant multi-port repeater supporting full interoperatability in all 10BaseT installations. The auto-partitioning feature will detect an errant port and disconnect the port from other operational ports, preventing a total network shutdown. The HUB-820T will automatically re-enable the disconnected port once the problem has been corrected. The Repeater offers a practical, innovative enhancement to existing or new installations. ScienTech R&D, Inc., 2845 Whipple Rd., Union City, CA 94587. (510)429-8690.

MACINTOSH HARDWARE

DAYSTAR TURBO 040 FOR IISI

DayStar's Turbo 040 is PDS-based 68040 CPU accelerator for the 25MHz 030 Macintosh IIsi. Turbo 040 is currently available in 25 and 33MHz. An additional cache, FastCache Turbo, is also available for added performance. It requires no software to run, and not modifications to your system file. The IIsi/IIci version of the Turbo 040 works with a DualPort or Adapter IIsi available for the Universal PowerCache for the IIsi. These adapters feature a cache slot for the Turbo 040, and a passthrough PDS slot that can be used with any PDS-based video or network cards. DayStar Digital, Inc., 5556 Atlanta Hwy., Flowery Branch, GA 30542. 1-800-962-2077.

ACCOMPLICE ACCELERATOR FOR IISI

Accomplice, designed for the Macintosh IIsi, is a 50MHz 030 accelerator with a 32K external cache. The passthrough PDS allows users to plug any IIsi PDS cards, including ethernet and video capture cards, directly into Accomplice's passthrough slot. It requires no software to run. However, software is provided to allow users control of the enhanced SANE (Standard Apple Numerical Equation) routines to accelerate math functions and to control the 32K external cache. Systems patches are not required. ($699) Extreme Systems, Inc., 1050 Industry Dr., Tukwila, WA 98188. 1-800-995-2334.

PRODUCT UPDATES

➤ **Adept Computer Solutions** released **Street Wizard 3.1**, its street mapping software package for Windows. Adept Computer Solutions, Inc., 1742 Garnet Ave., Suite 206, San Diego, CA 92109. 1-800-578-MAPS.

➤ **Autodesk** introduced **AutoCAD Release 12** for IRIS Indigo workstations. Autodesk Corp., 2320 Marinship Way., Sausalito, CA 94968. (415)332-2344.

➤ **DataEase** released **DataEase Express for Windows, v1.1**. The update features a new import/export facility, faster performance, improved interoperability with DataEase 4.53 for DOS, access to additional SQL database engines, more flexible LAN configuration options, and maintenance enhancements. This update is free for registered owners. DataEase International, Inc., Seven Cambridge Dr., Trumball, CT 06611. (203)374-8000.

➤ **Desktop Engineering International** released **DE/Cartes v2.0**, this PC Document Manager that works by cataloging all the documents in your office. Desktop Engineering International, Inc., 1200 MacArthur Blvd., Mahwah, NJ 07430. (201)818-9700.

➤ **Precise Electronics** released **UNI-ZIP V2**, a data compressing archiver for 386 UNIX/XENIX systems, Sun SPARC, and IBM RS/6000 workstations. Precise Electronics, Inc., 31 Englewood Ave., Brookline, MA 02146. (617)566-6867.

➤ **Intuit** introduced **Quicken 4 for Macintosh**. Current users can purchase Quicken 4 from Intuit directly for $29.95, plus $5 shipping and handling, by calling 1-800-624-8742. Or, current users can buy Quicken 4 and receive a $10 mail-in upgrade rebate.

➤ **Light Source** released **Ofoto v2** with support for a variety of Macintosh-compatible color flatbed scanners, including scanners from Hewlett-Packard, Microteck, LaCie, Epson, and UMAX. Registered owners can upgrade for $95; owners who received Ofoto (grayscale) with the Apple OneScanner can upgrade for $75. Light Source, Inc., 17 E. Sir Francis Drake Blvd., Suite 100, Larkspur, CA 94939. (415)461-8000.

➤ **Software Publishing Corp.** announced a special upgrade offer, allowing users of **Harvard Graphics for DOS** (2.x or later) or competing products to move to the current version of **Harvard Graphics for Windows 1.03** for $149. With the offer, users also receive a free upgrade to the next major release from Software Publishing. Software Publishing Corp., 3165 Kifer Rd., PO Box 54983, Santa Clara, CA 95056-0983. Customer Service, (408)988-7518.

➤ **Spyglass** released **Spyglass Transform 3.0**, a powerful visual data analysis and presentation tool for UNIX workstations and Macintosh computers. This release, which takes a major step to create identical feature sets for UNIX and Macintosh, includes enhanced labeling techniques, a powerful macro scripting language, a greatly enhanced data import facility and support of MathLink from Mathematica. Spyglass, Inc., 1800 Woodfield Dr., Savoy, IL 61874. (217)355-6000.

REVIEWS

GAME REVIEWS

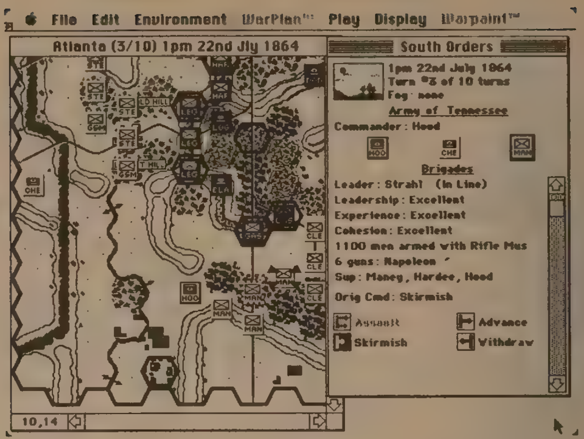
By Mike Markowitz

DECISIVE BATTLES OF THE AMERICAN CIVIL WAR VOLUME III: WILDERNESS TO NASHVILLE

Published By: Strategic Studies Group
Designed By: Roger Keating And Ian Trout
Programmed By: Danny Stevens
For: Macintosh (1MB for monochrome 2MB for color, memory requirements are doubled with System 7)
List Price: $50

On March 9, 1864, President Lincoln gave General Grant supreme command of the armies of the United States, with the objective of winning the war as quickly as possible, regardless of the cost. Grant may have lacked the tactical genius, gracious manners, and charismatic personality of Robert E. Lee, his West Point classmate; but he had the advantage of an almost unlimited supply of men, beans, and bullets.

As a result, the last year of the American Civil War was a series of grinding battles of attrition. The growing lethality of rifled muskets and shell-firing artillery forced armies to spread out across wider and wider fronts, making operations increasingly difficult to control (a problem that was not solved until reliable field radios were developed in the 1940s). To survive the storm of lead, troops on both sides learned to dig in, first spontaneous foxholes and gun positions, later planned trench lines and complex fortifications.



Atlanta (3/10) 1pm 22nd Jly 1864

1pm 22nd July 1864
Turn #3 of 10 turns
Fog: none
Army of Tennessee
Commander: Hood
Brigades
Leader: Strahl (In Line)
Leadership: Excellent
Experience: Excellent
Cohesion: Excellent
1100 men armed with Rifle Mus
6 guns: Napoleon
Sup: Maney, Hardee, Hood
Orig Cmd: Skirmish

The last volume in SSG's series of Civil War simulations includes six complete battles:
The Wilderness, May 5–6, 1864
Spottsylvania, May 10–12, 1864
Cold Harbor, June 1–3, 1864
Atlanta, July 22, 1864
Franklin, November 30, 1864
Nashville, December 15–16, 1864

Graphics And Animation: 7
Sound: 8
User Interface: 7
Overall Value: 8

The game system focuses on the problems of command and control. You have to move your army commander frantically around the battlefield to give new orders to your corps, divisions, and brigades,

Continued on page 87

FAX / MODEM
Direct from Wholesaler
Proven Reliability
5 Year Warranty

For WINDOWS: SEND/RECEIVE FAX MODEM + WINFAX & DOS Softwares

☆ SPECIAL ☆ MODEL 9624HWIN (Internal) with WINFAX
FAX S/R 9600/9600bps, MODEM 2400bps MNP 5 Retail $199 $64

INTERNAL
MODEL 2400H MODEM SPEED 2400bps
MNP 5 V.21,V.22,V.22bis,V.23, Hayes Modem Compatible, DOS softwares Retail $79 $27
MODEL 9624SH FAX Send 9600bps
MODEM speed 2400bps MNP 5 GIII FAX, Hayes Comp. DOS softwares Retail $89 $29
MODEL 9648AH FAX Send / Receive 9600bps/4800bps
MODEM speed 2400bps MNP 5 GIII FAX, Hayes Comp. DOS softwares Retail $129 $45
MODEL 9624H FAX Send / Receive 9600bps/9600bps
MODEM speed 2400bps MNP 5 GIII FAX, Hayes Comp. DOS softwares Retail $149 $55
MODEL 1414VH FAX Send / Receive 14400bps/14400bps
MODEM speed 14400bps MNP 5 V.32/V.42 GIII FAX Hayes DOS softwares Retail $449 $159

EXTERNAL
MODEL 9624E FAX Send / Receive 9600bps/9600bps
MODEM speed 2400bps MNP 5 GIII FAX, Hayes Comp. DOS softwares Retail $189 $72
MODEL 9624VQE FAX Send / Receive 9600bps/9600bps
MODEM speed 2400bps MNP 5 V.32/V.42 GIII FAX Hayes DOS softwares Retail $189 $79
MODEL 1414VE FAX Send / Receive 14400bps/14400bps
MODEM speed 14400bps MNP 5 V.32/V.42bis GIII FAX Hayes DOS softwares Retail $459 $188

POCKET SIZE
MODEL 9624SP FAX Send 9600bps (Pocket/External)
MODEM speed 2400bps MNP 5 GIII FAX, Hayes Comp. DOS softwares Retail $199 $59
MODEL 9624P FAX Send / Receive 9600bps/9600bps
MODEM speed 2400bps MNP 5 GIII FAX, Hayes Comp. DOS softwares Retail $199 $82
MODEL 1414VQP FAX Send / Receive 14400bps/14400bps
MODEM speed 14400bps MNP 5 V.32/V.42bis GIII FAX Hayes DOS softwares Retail $499 $249

☆ WINFAX($10) or SuperFax($5) for Windows w/Manual (Purchase with above product)
☆ Model 3000B Phone/Fax/Modem/Answering Auto Switch Device uses for a Single phone line $59

YOKOHAMA Telecom Corp.
4095-M E. La Palma Ave.
Anaheim, CA 92807
Tel : 714 - 630 - 4061
Fax : 714 - 630 - 5069
Visit our office to see the WinFax Demo.
Call for Dealer Q'ty Discount
MON. - FRI. : 9:00AM TO 6:00PM
SAT. : 9:00AM TO 3:00PM
Price, availability and specifications subject to change without notice. Restock charge / No refund after 30 days.

ORDER FORM:
MODEL NO. x Quantity = Amount
x =
x =
x =
SUB-TOTAL =
CA Resident add Tax (x 0.0775) =
Shipping & Handling Charge = $4.00
GRAND TOTAL =
Send to: YOKOHAMA Telecom Corp.
P.O. Box 626 Atwood, CA 92601
Your Name:
Address
City State Zip
Tel:
☐VISA ☐MC OR INCLUDE CHECK $
Card No. Exp:
Sign.

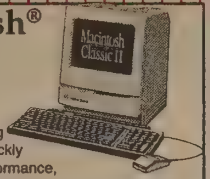
Apple® Computer®

On-the-spot rebates. On-target solutions.

Authorized Reseller

On Selected Apple® Computer® Products

On-the-spot
rebates.
On-target
solutions.



Apple® Macintosh® Classic® II 4/80

The Apple® Macintosh® Classic® II computer combines performance and affordability for writing papers, crunching numbers, and drawing conclusions. Quickly and effortlessly. In addition to solid performance, the Macintosh Classic II comes complete with monitor, keyboard, mouse, microphone (for personalizing work with your voice and other sounds), and is System 7™ capable. Its all-in-one design is easy to set up, even easier to use, and includes the Apple SuperDrive™ disk drive—capable of reading both MS-DOS and Macintosh disks.
#1713442

$899*

* After ON-THE-SPOT REBATE

Apple® Macintosh® Color Classic® 4/80

The Apple® Macintosh® Color Classic® computer combines the performance and affordability of the Apple Macintosh Classic II with the ability to display up to 256 colors on its built-in Trinitron screen.

- Displays up to 256 colors on a built-in Trinitron screen
- 4MB of RAM, expandable to 10MB
- 40MB, 80MB, or 160MB internal hard disk
- Built-in LocalTalk® connection
- AppleTalk® networking software • Easy to transport
- A member of the Classic Macintosh product line

#1767430

$1079*

* After ON-THE-SPOT REBATE

Apple® Macintosh® Centris™ 610 4/80

Now there's an affordable way to take advantage of the power of the 68040 microprocessor: the Apple Macintosh Centris 610 desktop personal computer. Like all Macintosh Centris computers, the Macintosh Centris 610 delivers the high performance you need to get the job done in a demanding environment, while giving you the flexibility to configure your system to meet your needs today and tomorrow.
Monitor and Keyboard Not Included
#1765748

$1249*

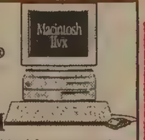
* After ON-THE-SPOT REBATE

Apple® Macintosh® Centris™ 610 8/230 w/Apple® CD-ROM

Now there's an affordable way to take advantage of the power of the 68040 microprocessor: the Apple Macintosh Centris 610 desktop personal computer Like all Macintosh Centris computers, the Macintosh Centris 610 delivers the high performance you need to get the job done in a demanding environment, while giving you the flexibility to configure your system to meet your needs today and tomorrow.
Monitor and Keyboard Not included
#1767555

$1999*

* After ON-THE-SPOT REBATE

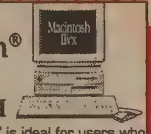


Apple® Macintosh® IIvx™ 4/80 512K VRAM

The Macintosh IIvx is ideal for users who seek faster performance, more memory, and future expandability. System memory can be expanded from 4 to 20 megabytes. It comes equipped with a math coprocessor and cache card for increased speed. And it can be equipped with an internal CD-ROM drive, for instant access to thousands of volumes of information stored on CD.
Monitor & Keyboard extra.
#1738487

$1449*

* After ON-THE-SPOT REBATE

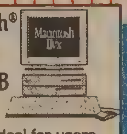


Apple® Macintosh® IIvx™ 5/80 w/CD-ROM

The Macintosh® IIvx™ is ideal for users who seek faster performance, more memory, and future expandability. System memory can be expanded from 4 to 20 megabytes. It comes equipped with a math coprocessor and cache card for increased speed. And it can be equipped with an internal CD-ROM drive, for instant access to thousands of volumes of information stored on CD.
Monitor & Keyboard Sold separately
#1738498

$1679*

* After ON-THE-SPOT REBATE

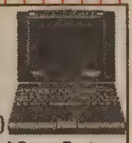


Apple® Macintosh® IIvx™ 4MB RAM/230MB Hard Drive

The Macintosh IIvx is ideal for users who seek faster performance, more memory, and future expandability. System memory can be expanded from 4 to 20 megabytes. It comes equipped with a math coprocessor and cache card for increased speed. And it can be equipped with an internal CD-ROM drive, for instant access to thousands of volumes of information stored on CD.
#1738502

$1849*

* After ON-THE-SPOT REBATE

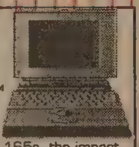


Apple® Macintosh® PowerBook Duo™ 210 4/80

The Apple® Macintosh® PowerBook Duo™ 210 computer gives you the best of both worlds—desktop expandability and peripherals, plus PowerBook convenience and portability. Because soon, you'll be able to use it with a unique desktop docking system. The Macintosh PowerBook Duo 210 comes with 4 megabytes of RAM (expandable to 12), an 80 megabyte internal hard disk drive, and two expansion slots.
#1738339

$1399*

* After ON-THE-SPOT REBATE



Apple® Macintosh® Color PowerBook™ 165C 4/80

With the PowerBook™ 165c, the impact and appeal of a bright, vivid color display is now available on a portable Macintosh computer. It delivers the processing speed, flexibility, and convenience you need all in a package that weighs just seven pounds and fits into a briefcase. It also features a backlit passive-matrix display that gives you 256 brilliant colors. You can also connect to a larger display for more work space.
#1767393

$2449*

* After ON-THE-SPOT REBATE

Apple® Macintosh® PowerBook Duo™ Dock

The Apple® PowerBook Duo™ Dock is perfect for individuals who want the convenience of a notebook computer and the flexibility of a complete desktop system. Its PowerLatch™ docking technology makes connecting the Apple PowerBook Duo a snap—insertion and removal is automatic. And you can't accidentally eject your notebook, so your data is always protected.
#1738432

$799*

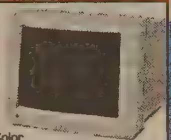
* After ON-THE-SPOT REBATE

Apple® Macintosh® Portrait Display

The Apple® Macintosh® Portrait Display is a high-resolution 15-inch monochrome display. It's ideal for work with desktop publishing, word processing, and general productivity applications. The full 8 1/2 x 11-inch page display shows a complete page of information just as it will appear in print. That makes it easy to preview and edit documents and add text or graphics. You'll also find that page layout of text and graphics will be more accurate and much more efficient.
#1714203

$649*

* After ON-THE-SPOT REBATE



Apple® Basic Color Monitor

The Apple® Basic Color Monitor provides exceptional image clarity at an extremely affordable price. It easily connects to any Apple Macintosh® computer that supports VGA monitors and provides all the features of a standard 14-inch VGA display. The display's screen combines high resolution and shadow masking to provide images that are amazingly crisp and clear. And its built-in tilt-and-swivel base makes it easy to adjust the display to a comfortable viewing angle.
#1796416

$299*

* After ON-THE-SPOT REBATE

Apple® Personal LaserWriter® NTR

The Apple® Personal LaserWriter® NTR printer offers you exceptional value in a compact laser printer. It uses a high-speed RISC processor for faster printing speed and very fast first-page output. It offers high-performance PostScript™ Level 2 capabilities that allow you to produce high-quality graphics and text, and give you access to hundreds of fonts from both Apple and third-party vendors. And its ability to connect simultaneously to Macintosh® and IBM PC (or compatible) computers or networks makes it an excellent choice for small workgroups in multivendor computing environments. Printer card & toner.
#1714351

$899*

* After ON-THE-SPOT REBATE

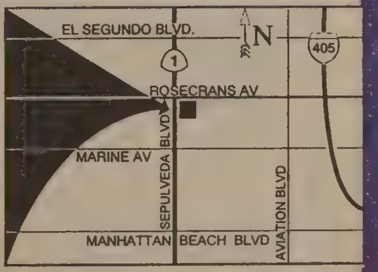
Fry's ELECTRONICS

Home of Fast, Friendly, Courteous Service

STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

MANHATTAN BEACH

3600 Sepulveda Blvd.
(310) 364-FRYS (3797)
CORP. P.O. FAX (310) 364-3700



Prices good through August 2, 1993

Limit Rights Reserved
Not Responsible For
Typographical Errors

VISA AND
MASTERCARD

386SX-33MHz
MINI TOWER SYSTEM

80386SX 33MHz CPU
3.5" 1.44MB Floppy Drive
1MB RAM Expandable to 16MB
101- Key Keyboard
Clock/Calendar
Monitor not included #1741069

$299

486DLC-33MHz
COMPUTER SYSTEM
CYRIX 486DLC CPU

80486DLC 33MHz CPU
1MB RAM Expandable to 32MB
2 Hard/2 Floppy Controller
3.5" 1.44MB Floppy Drive
Keyboard • Clock/Calendar
Case/Power Supply
Monitor Not included #1743603

$399

486SX-25MHz
105MB SVGA SYSTEM

80486SX 25MHz CPU
3.5" 1.44MB Floppy Drive
1MB RAM Expandable to 32MB
2 Hard/2 Floppy Controller
105MB Hard Drive
1024 x 768 Adapter Card
Keyboard • Clock/Calendar
Monitor sold separately
#1737866

$699

486DX-33MHz
COMPUTER SYSTEM

80486DX 33MHz CPU • 1MB RAM Expandable to 32MB
3.5" 1.44MB Floppy Drive
IDE 2 Hard/2 Floppy Disk Controller • Clock/Calendar
101-Key Keyboard • Monitor Sold Separately
#1727092

$599

LEADING EDGE

386SX-25MHz
80MB NOTEBOOK

386SX 25MHz CPU • 4MB RAM
3.5" 1.44MB Floppy Drive
VGA Output • 80MB Hard Drive
Microsoft DOS 5.0
#1753190

$1099

386SXL-25MHz
85MB NOTEBOOK

Avanti

25MHz 386SXL CPU • 4MB RAM Expandable to 8MB
85MB Hard Disk Drive • Fax Send and Receive Modem
3.5" 1.44MB Floppy Drive • High Contrast 10 Inch LCD
Advanced Power Management • Unique Pivoting Screen
Saves Space DOS, Windows
Carrying Case
#1670387

$1299

LEADING EDGE

486SLC-25MHz
80MB NOTEBOOK

80486SLC 25MHz CPU • 80MB Hard Drive
4MB of RAM
3.5" 1.44MB Floppy Drive
VGA Output
1 Parallel/2 Serial Ports
MS DOS 5.0 • MS Windows
Window Works
#1767108

$1499

486DX2
66MHz
MOTHERBOARD

EISA /VESA Local Bus/ISA
All Three-In-One Board
256K Cache
CPU sold separately
#1772472

$249

EPSON® *ActionPrinter*™ 1000

Fast six pages per minute print speed makes you more productive. HP LaserJet IIP and Epson dot matrix compatible. 14 resident fonts. 512KB memory expandable to 6.5MB on motherboard. 6,000-page, single element imaging cartridge. Optional Adobe Postscript. Two year limited warranty. #1760237

$649⁹⁹

Panasonic
Office Automation OA

KX-P2180 9-PIN PRINTER WITH *QUIET* PRINTER TECHNOLOGY

9 Pin • 80 Columns • 192 CPS
38 CPS NLQ • 6 Built-In NLQ Fonts
240 x 216 DPI Resolution
Push-Pull Tractor • Optional Color
#1658714

$157⁹⁵

Fry's is an authorized Panasonic O/A Service Facility

Charlie Chip Says:
"Your Best Computer Buys Are Always At...

Fry's ELECTRONICS"

DATA CARTRIDGES

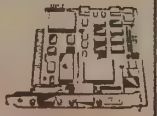
DYSAN
SAVE THE THINGS THAT MATTER MOST™
120MB DATA CARTRIDGE
1/4" tape, Unformatted
DY2120 #1781496
$15.99

DYSAN
SAVE THE THINGS THAT MATTER MOST™
150MB DATA CARTRIDGE
1/4" tape, Unformatted, Dual Belted, Lifetime Warranty
DY6150 #1786620
$17.95

1024 X 768 14" SUPER VGA MONITOR

1024 X 768
.28 Dot Pitch • Interlaced
One year Warranty
NFINITI #1643668
$259

1024 X 768 SUPER VGA CARD



16 Bit BUS
256K Expandable to 512K RAM
Analog/Digital Output #1611564
$39.95

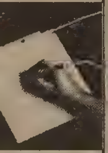
1024 X 768 NON-INTERLACED 14" SUPER VGA MONITOR

1024 X 768 • .28 Dot Pitch
Non-Interlaced • One Year Warranty
#1657506
$289

PROFESSIONAL PRESENTATION PERFORMANCE
MEDIA VISION
PRO 16 MULTIMEDIA SYSTEM

Pro AUDIO Spectrum 16
NEC Multi Speed SCSI Multimedia CD-ROM
Average access 280ms
Sustained data transfer 300kB/sec
Burst rate 1.5MB • 64kB buffer
MACROMIND ACTION (Multimedia Presentation Software) • Windows 3.1 • Lotus 1-2-3 for Windows
Compton's M.M. Encyclopedia #1679548
MPC Multimedia PC
$839

PERFECT POINTING PERFORMANCE
ACECAT PC
GRAPHICS TABLET & MOUSE EMULATOR



1000 Lines Per Inch
5" X 5" Active Area. Includes Stylus-Pen and Comprehensive Utilities Diskette Including Custom Drivers for Mouse, Windows, Control Panel and ADI.
#1659900
$109.99

120MB 3.5" IDE HARD DRIVE

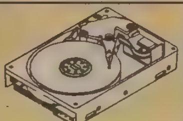
3.5" Form Factor 1" Ht.
16ms Fast Access Time
SHD3062A #1708695
$169

intel

Intel External Fax/Modem 144/144e 14,400 bps, V.42bis modem/14,400 bps fax

Make all the right connections. Intel connects you to the broadest range of modems and fax machines. Plus Intel gets you started with $107 worth of free on-line services. Put a new world of information at your fingertips. Pay bills electronically. Get the latest stock market report. All necessary communication and fax software is included as well as industry leading Intel technical support by phone.
24 hour fax and electronic bulletin board services
#1805811
$199

255MB 3.5" IDE HARD DRIVE



3.5" X 1" Ht. • One Year Warranty
SHD3122A #1786011
$279

INTERLINK ELECTRONICS

PortaPoint

Gently touch the unique sensor button to control both speed and direction. PortaPoint comes complete with a PS/2 adapter, a quick-release Velcro attachment and a 3 1/2" DOS driver diskette (5 1/4" available).
#1747825
$59.99

MINI TOWER COMPUTER CASE WITH 200 WATT POWER SUPPLY
P-105PB #1758379
$59.95

ADAPTEC 16 BIT SCSI CONTROLLER
16 Bit
2 Hard/2 Floppy
Model 1522K #1527584
$159

BLACK 101 - KEY KEYBOARD
By Antech
#1780738
$49.99

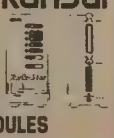
16-BIT ETHERNET CARD
Twisted Pair With 10BASET And AUI
NH2100-TA #1796807
$69.95

ADAPTEC MULTI-MEDIA SCSI CONTROLLER
Multi-Media Extension CD-ROM Software Module
Model AHA-1510 #1662043
$99.95

FULL METAL JACKET
6 OUTLET 3 PHASE FULL SURGE PROTECTOR

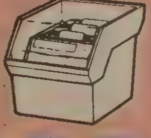
Clamping Response Time <1 Nanosecond
Energy Dissapation 50/150 Joules
#1695713
$7.95

kansai
PARALLEL PRINTER BUFFER



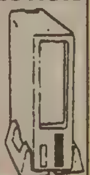
EXPANDABLE TO 8MB USING 1 X 8 SIMM MODULES
27K Per Second Input
15K Per Second Thru-put #1711462
$144.95

3.5" DISK FILE



Holds 50 Diskettes by Inland
#1666988
$3.99

SPACE SAVING SOLUTION
UNIVERSAL SYSTEM STAND

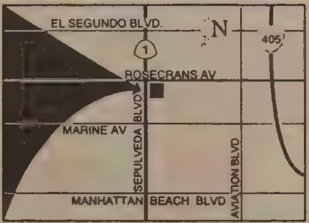


Vertical CPU stand frees up valuable desk space.
Adjustable stand holds units from 4.5" to 6.25" #1619403
$4.99

Fry's ELECTRONICS
HOME OF FAST, FRIENDLY, COURTEOUS SERVICE
Limit Rights Reserved
Not Responsible For Typographical Errors
Prices good thru August 2, 1993

STORE HOURS
MON - FRI
8AM - 9PM
SATURDAY
9AM - 8PM
SUNDAY
9AM - 7PM

MANHATTAN BEACH
3600 Sepulveda Blvd.
(310) 364-FRYS (3797)
CORP. P.O. FAX (310) 364-3700



VISA
MasterCard
VISA and MasterCard Accepted

Fry's ELECTRONICS

SEE OVER 10,000 ELECTRONIC ITEMS AT LOW, LOW PRICES!

LEADING EDGE

486SLC 25MHz *WINPRO* COMPUTER SYSTEM

80486SLC 25MHz CPU • 2MB of RAM
3.5" 1.44MB Floppy Drive • 101-Key Keyboard
1024 x 768 SVGA Adapter • 1 Parallel/2 Serial Ports
MS DOS 5.0 • Mouse
Monitor not included
#1772494

$599

LEADING EDGE

486DX2 50MHz 213MB SVGA COMPUTER

80486DX2 50MHz CPU • 4MB of RAM Expandable to 32MB
5.25" 1.2MB & 3.5" 1.44MB Floppy Drive • 213MB Hard Drive
101-Key Keyboard • HR Video Adapter with 512K.
2/Serial 1/Parallel 1/Mouse Port • Mouse
Software Included: Microsoft DOS 5.0 Microsoft Windows
Microsoft Windows Works Wordprocessor Spreadsheet
Data Base Virus Protection Software
Monitor Not Included
#1694055

ONE YEAR ON-SITE SERVICE

$1599

HEWLETT PACKARD
Authorized Dealer
A 50 YEAR TRADITION OF QUALITY.
HP DELIVERS PC PRODUCTS YOU CAN DEPEND ON.

DeskJet 500 Inkjet Printer

300 DPI LASER QUALITY
Scalable Fonts for MicroSoft Windows 3.0
Water Resistant Ink
Character Kerning for Improved Letter Spacing
Whisper Quiet • Three Year Warranty
#1529128

$335.95

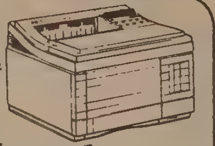
HEWLETT PACKARD
Authorized Dealer
A 50 YEAR TRADITION OF QUALITY.
HP DELIVERS PC PRODUCTS YOU CAN DEPEND ON.

DeskJet Portable Inkjet Printer

300 DPI portable printing for both text and graphics. Fast- up to 3 pages per minute. Small, lightweight and easy to carry. Four portrait and two landscape typefaces built-in. 84 typefaces, size and style combinations.

$369.95 #1733714

HEWLETT PACKARD
Authorized Dealer
A 50 YEAR TRADITION OF QUALITY.
HP DELIVERS PC PRODUCTS YOU CAN DEPEND ON.

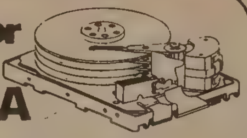


LaserJet 4

Fast 8ppm printing for complex documents
45 Scalable Fonts • 2MB RAM
600 DPI Print Quality at a 300 DPI Price
300 Page Paper Capacity
Ideal for Windows and Graphics
Optional Full Network Capabilities
#1734140

CALL FOR BEST PRICE

Maxtor



7213A 213MB IDE HARD DRIVE

3.5" X 1" HT
15MS Access Time
#1694044

$239

Intuit

Quicken 2.0 For Windows

Quicken, the most popular financial package, now takes full advantage of the window environment. It tracks checking, savings, credit cards, investments, cash, assets, and liabilities. Quicken also reports cash flow, net worth, tax information, budgets and a lot more!

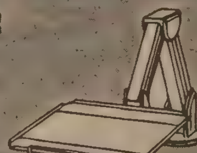
IBM
#1738177

$36.95

250MB TAPE BACK-UP

40/80/120/250MB Format
Internal Drive runs off floppy controller
Includes Software & Cables
Cartridge Sold Separately
#1794791

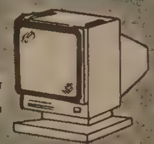
$179



MONITOR MOVER K-ARM

Clears the work surface while keeping the keyboard and monitor within easy reach. Unit extends, retracts, and rotates 360 degrees. Adjusts between 6" and 8" above the desktop. Chrome handle extends to hold keyboard. Holds monitors with a footprint up to 12.5" x 12.5".
#1695908

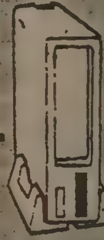
$49.99



RETINAL RELIEF ANTI-GLARE FILTERS

Cuts ultraviolet and daylight reflection
Enhance screen sharpness and contrast

#1620234	For 12" Color Monitor	$8.95
#1620245	For 12" Mono Monitor	$7.95
#1620212	For 14" Color Monitor	[illegible]
#1620223	For 14" Mono Monitor	[illegible]



SPACE SAVING SOLUTION UNIVERSAL SYSTEM STAND

Vertical CPU stand frees up valuable desk space.
Adjustable stand holds units from 4.5" to 6.25"
#1619403

$4.99

Fry's ELECTRONICS

Home of Fast, Friendly, Courteous Service

Prices good through August 2, 1993

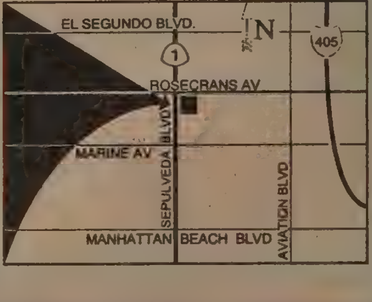
Limit Rights Reserved
Not Responsible For Typographical Errors

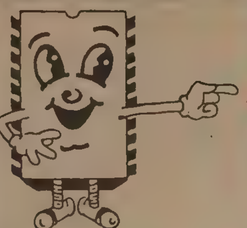
HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA AND MASTERCARD

MANHATTAN BEACH

3600 Sepulveda Blvd.
(310) 364-FRYS (3797)
CORP. P.O. FAX (310) 364-3700





Fry's ELECTRONICS

ONE STOP SHOPPING FOR THE HI-TECH PROFESSIONAL!

IBM PS/1 Expert S45

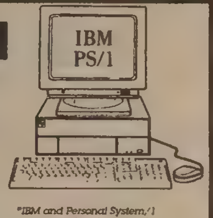
AT BUS

486SX-25MHz

80MB VGA SYSTEM

VGA DISPLAY INCLUDED

Intel 486SX 25MHz CPU
80MB Hard Drive
2MB Memory Expandable to 32MB
3.5" 1.44MB Floppy Drive • 3 AT Slots
14" VGA Color Monitor • Local Bus SVGA
IBM Mouse • IBM Keyboard • 2400 BPS Modem
Novell® certified
Preloaded Software: MS DOS 6.0 • Microsoft Windows 3.1 Microsoft Works for Windows • PRODIGY • P/S1 Tutorial, Index Fitness, • Virus check• PS/1 Edition American On-line
IBM Quality & Reliability: The PS/1 Expert is built to IBM's exacting standards for quality & reliability.
Support and Service: The exclusive online PS/1 Club™ answers your computing questions, 24 hours a day, 365 days a year.
#1767267



IBM Business Partner
Authorized Personal Computer Dealer

*IBM and Personal System/1 are registered trademarks of International Business Machines Corporation

$1099

IBM PS/1 Expert S50

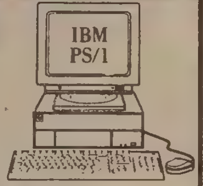
AT BUS

486SX-25MHz

170MB SVGA SYSTEM

SVGA DISPLAY INCLUDED

Intel 486SX 25MHz CPU
170MB Hard Drive • 128K Cache
4MB Memory Expandable to 32MB
3.5" 1.44MB/5.25" 1.2MB Floppy Drives
5 AT Slots • Novell® certified
14" SVGA Color Monitor • Local Bus SVGA
IBM Mouse • IBM Keyboard • Internal Fax/Modem
Preloaded Software: MS DOS 6.0 • Microsoft Windows 3.1 Microsoft Works for Windows • PRODIGY • P/S1 Tutorial, Index Fitness, • Virus check• PS/1 Edition American On-line
IBM Quality & Reliability: The PS/1 Expert is built to IBM's exacting standards for quality & reliability.
Support and Service: The exclusive online PS/1 Club™ answers your computing questions, 20 hours a day, 365 days a year.
#1767289



IBM Business Partner
Authorized Personal Computer Dealer

*IBM and Personal System/1 are registered trademarks of International Business Machines Corporation.

$1699

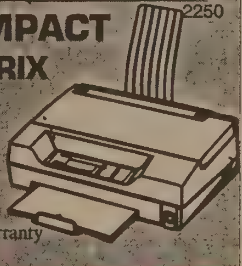
TOSHIBA 2.88MB FLOPPY DRIVE

3.5" Drive reads and writes 2.88MB, 1.44MB and 720K formats.
ND357-1 #1786077

$79⁹⁵

EPSON ActionPrinter™ 2250

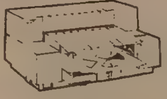
9 PIN IMPACT DOT MATRIX PRINTER



50 Sheet Paper Cassette Tray
240 CPS Draft, 48 CPS NLQ
Quiet • 2 Year Warranty
#1729120

$127⁹⁵

HEWLETT PACKARD
Authorized Dealer
A 50 YEAR TRADITION OF QUALITY. HP DELIVERS PC PRODUCTS YOU CAN DEPEND ON.



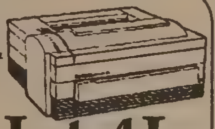
DeskJet 500C

Color InkJet Printer

COLOR INKJET OUTPUT AT 300 DPI!
Prints in Color or Black and White
100 Sheet Paper Feeder • Whisper Quiet
3 Year Warranty
#1632480

$485⁹⁵

HEWLETT PACKARD
Authorized Dealer
A 50 YEAR TRADITION OF QUALITY. HP DELIVERS PC PRODUCTS YOU CAN DEPEND ON.



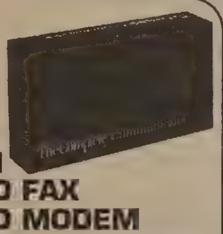
LaserJet 4L

26 built-In scalable typefaces let you shrink and enlarge type to thousands of sizes.
300 DPI Laser printing with HP Resolution Enhancement technology and microfine toner for smooth, sharp text and graphics.
1MB standard memory with Memory Enhancement technology effectively doubles your printer memory.

#1786963

$641⁹⁵

TheComplete PC



TheComplete Communicator

VOICE MAIL
9600 BAUD FAX
2400 BAUD MODEM

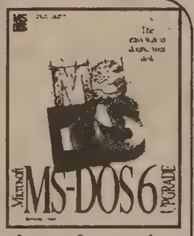
THE COMPLETE COMMUNICATOR

Runs completely in background mode. Send faxes to an individual or to a group of people and schedule calls. Voice messaging & call processing, including password-protected mail boxes, message forwarding and complete remote access.

#1477762

$129

Microsoft MS-DOS 6 Upgrade



Introducing the Microsoft MS-DOS 6 Upgrade, which makes it easy to double the size of your hard disk and do much more. You also get features that protect your data and free more memory for your MS-DOS based applications. Plus, integration of MS-DOS 6 with the Microsoft Windows operating system means the MS-DOS 6 Upgrade is a must-have for users of Windows!

IBM
#1771460

$49⁹⁵

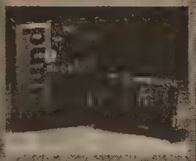
ANSEL 16-BIT ETHERNET CARD

10BASET and AUF

Ansel NH2100-TA #1796807

$69⁹⁵

SOUND BLASTER-DELUXE



- 11-Voice FM Music Synthesizer
- 8-bit Digitized Voice Channel Input and Output
- Joystick Port • Built-In Power Amplifier
- Free Game Software; INDY 500 and Lemings
- Windows 3.1 Compatible

#1768844

CREATIVE
CREATIVE LABS, INC.

$99⁹⁹

SHIELDED COMPUTER SPEAKERS

High efficiency micro stereo speakers Built-In power booster (4, "c" size batteries not included) Individual volume controls • DC 6 volt input jack 3.5mm stereo plug
CS-150 #1664001

Labtec.

$17⁹⁵

Analog XTRA™ JOYSTICK

4 Fire Buttons
Variable Auto-Fire Rate
Throttle Control
#1598830

Suncom TECHNOLOGIES

$29⁹⁹

Fry's ELECTRONICS

Home of Fast, Friendly, Courteous Service

Prices good through August 2, 1993

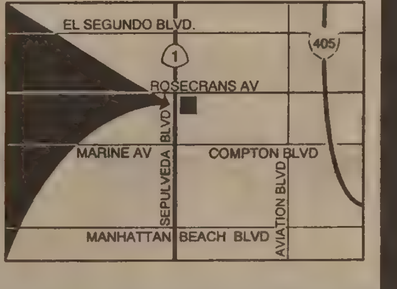
Limit Rights Reserved
Not Responsible For Typographical Errors

STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA AND MASTERCARD

MANHATTAN BEACH

3600 Sepulveda Blvd.
(310) 364-FRYS (3797)
CORP. P.O. FAX (310) 364-3700



MAC POWERBOOK BATTERIES

REPLACEMENT BATTERIES FOR YOUR MAC POWERBOOK 140/145/160/170/180
WE ALSO HAVE CHARGERS AVAILABLE

LT-141-0 $\$69^{99}$
#1747803 BATTERY..................

LTCC-141 $\$24^{99}$
#1748066 CHARGER & CONDITIONER MUST BE USED WITH UCB110

UCB-110 $\$74^{99}$
#1748491 BASE FOR LTCC141..............

WE ALSO CARRY REPLACEMENT BATTERIES FOR TOSHIBA, ZENITH, EPSON, NEC, HP & MUCH MORE

COMPUTER BATTERIES

WE CARRY ALL SOLUTIONS FOR BATTERY BACK-UP IN YOUR PC'S

LA103-0
IBM PS/2 Clock Battery $\$12^{99}$
#1785205

LA110-5
6v AT Pack $\$11^{49}$
#1785180

LA108-41
3.6v Lithium AT Pack $\$8^{99}$
#1785227

CORDLESS TELEPHONE BATTERIES

REPLACEMENTS FOR SONY, PANASONIC, G.E., UNIDEN, SOUTHWESTERN BELL, & MANY OTHER MAJOR BRANDS IN STOCK

N27031
POPULAR UNIDEN REPLACEMENT $\$7^{99}$
#1785098

N50031
POPULAR PANASONIC REPLACEMENT $\$6^{59}$
#1774681

N25003122
POPULAR S.W BELL REPLACEMENT $\$5^{99}$
#1775109

QUALITY SPEAKER WIRE

IDEAL FOR 1st LEVEL WIRING OF ELECTRONICS OR INSTALLATION OF SPEAKERS IN YOUR HOME OR CAR AUDIO SYSTEM

SPW-14-50
14 GAUGE/50FT. $\$9^{99}$
#1706589

SPW-16-50
16 GAUGE/50FT. $\$7^{49}$
#1706534

SPW-18-50
18 GAUGE/50FT. $\$3^{29}$
#1706464

AT LAST A LAPTOP COMPUTER SCREEN CLEANER THAT WON'T SCRATCH YOUR SCREEN!

klear screen
klear screen

KLEAR SCREEN

First product designed to clean delicate LCD displays. Non toxic Alcohol free • Amonia free
Youre going to love this stuff!

REG. $\$7^{99}$ $\$6^{99}$
KS-2 KLEAR SCREEN
#1743500

SAVE 25% OFF REGULAR PRICES

Wiha

7-PCS PRECISION SLOTTED & PHILLIPS $\$19^{99}$
26190 #1738960

6-PCS SLOTTED DRIVERS $\$18^{99}$
26090 #1780093

6-PCS PRECISION TORX SCREWDRIVER $\$27^{99}$
26790 #1738971

Basic Telecom Tool Case

Black codura exterior, heavy duty zipper, two poly web straps with leather wrapped handles, detachable shoulder strap, two exterior meter pockets, and literature pocket. Interior (designed) by Southern Bell) features velcro handset holder, 14 sewn tool pockets, and six small parts pouches.
14" x 14" x 3"

platt $\$91^{69}$
675ZT-BLACK
#1790236

QVS COMPUTER SERVICE KIT

Contains an assortment of specialty tools for computer service. Includes chip extractor, assembly tweezers 3 clawparts retriever, 4 screw drivers (2 slotted, 2 phillips), 2 nut drivers and a torx screwdriver. Neatlly stored in a zippered vinyl carring case.

$\$11^{95}$
CA215L
#1780794

DREMEL® VARIABLE SPEED MOTO-TOOL KIT

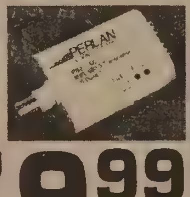
(5,000-30,000 RPM) allows user to select the right speed for the job. Ball bearing motor construction reduces friction for longer motor life. Tapered housing shape for comfortable finger tip control. Double insulated motor, no grounding required. 6ft, two wire coil cord is compact for convenient storage in kit box. No adapter plug needed. Thrust bearing for greater drilling capability. Keyless chuck for fast replacement of bit, up to 1/8" shank sizes. Also uses collets from 1/32" to 1/8" for fine control.

REG. $\$89^{99}$ $\$69^{99}$
3950
#1740460

PERLAN NETWORKING

10 BASE-2 TRANSCEIVER

Simply connects to the ethernet coax cable through a BNC connector and to workstation.



$\$79^{99}$
PB2-1000
#1757426

AIR BLAST
PRESSURIZED DUSTER

CFC FREE

E626 6oz.
#1719655
$\$2^{99}$

ARTIC AIR
ELECTRONIC COMPONENT CHILLER

CFC FREE

E1229 12oz.
#1731246
$\$3^{99}$

CooperTools

WELLER SOLDERING IRON

- General purpose sodering tool
- Specically designed for use at electroststic free work stations
- Completely free from stored static charges (ESD safe)
- Features stainless steel plug-in heater element construction
- Non-burning silicon rubber cord
- Handle design is lightweight, high impact plastic

REG. $\$83^{73}$ $\$69^{95}$
CG-EC1201A
#1739411

FOREIGN PLUG ADAPTERS

WILL CONVERT MOST ELECTRICAL PLUGS AND OUTLETS

NORTH AND SOUTH AMERICA TYPE PLUG ADAPTER
VC-10 #1769476

U.S. TYPE PLUG ADAPTER
VC-20 #1769487

EUROPEAN TYPE PLUG ADAPTER
VC-20 #1769487

REGULAR PRICE $\$2^{89}$
YOUR CHOICE
$\$1^{99}$

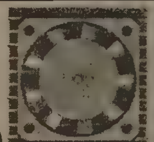
LITE SOURCE INC.

MAGNIFIER LAMP

5" lens, 3 diopter magnifier lamp, 22-watt included

REG. PRICE $\$69^{99}$
$\$49^{99}$
LSM-180
#1784983

PCUBID
Computer Technology, Incorporated



486 CPU KOOLER

A high quality Heatsink and fan combined to cool your Intel 486 CPU. Many inferior versions are out there, but don't be fooled. Come see the PCubid version and you will see why this is the choice of engineers. Easy to attach with thermal adhesive (supplied).

$\$39^{95}$
486-CPU KOOLER
#1722547

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

Prices good through August 2, 1993

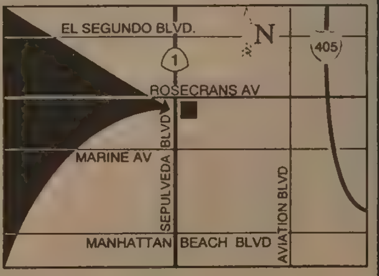
Limit Rights Reserved
Not Responsible For
Typographical Errors

HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA AND MASTERCARD

MANHATTAN BEACH

3600 Sepulveda Blvd.
(310) 364-FRYS (3797)
CORP. P.O. FAX (310) 364-3700



Continued from page 80

otherwise they will keep following their original orders, or simply relapse into inactivity. Victory is determined by a point system based on geographic objectives, troop losses, and leader casualties.

The map is a hexagonal grid on a scale of 300–500 yards per cell. Each turn represents an hour of real time. The program includes an elaborate set of design tools that allow you to modify the scenarios or design your own.

The program is installed from two 800K disks. Both monochrome and 16-color scenarios are included. Documentation is adequate. A glossy, full-color reference map of all the battlefields is included.

SSG's American Civil War game system is a good computer implementation of the conventions of board wargaming. The most serious flaw in the system is the treatment of leader units. Leader units can occupy terrain, and because they are virtually indestructible, this can create odd, unrealistic situations.

The program can graphically display the condition of units (as they take losses they get tattered around the edges) but not their facing or formation. It will be interesting to see if SSG is able to adapt this game system to the ever-popular Napoleonic Wars. (Strategic Studies Group, Inc., PO Box 30085, Pensacola, Florida 32503-1085. 904/469-8880; Fax: 904/469-8885)

CHESS MANIAC 5 BILLION AND 1

Designed By: Paul Mogg, Erick Jap

Programmed By: Erick Jap, Peter Ward, Heather Mace

Published By: Spectrum HoloByte

For: MS-DOS (2MB RAM, 25MHz 80386SX or faster CPU, VGA graphics, supports popular audio cards)

List Price: $69.95 (CD-ROM version is $59.95)

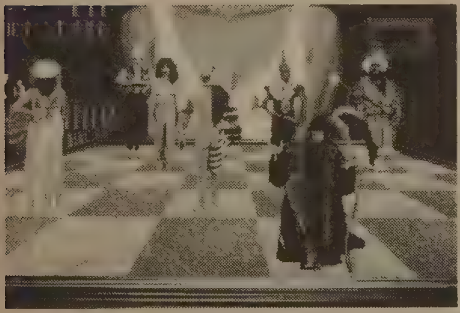
Chess takes itself very seriously. Look at Bobby Fischer. Chess is not a game, it is a way of life. Since the 1950s, generations of programmers have struggled to write code that would enable the feeble binary logic of a computer to master the vast combinatorial space of a chess game. Vastly expensive custom-built chess machines are beginning to approach the performance of a Grand Master on one of his depressive Russian-winter bad days. There are quite a few chess programs you can buy in shrink wrap and run on your home computer; they are beginning to approach the performance of a Serious Player on a good day. Chess on computers combines most of the worst features of:

(a). chess, and

(b). computers.

Graphics And Animation: 9
Sound: 8
User Interface: 7
Overall Value: 7

So something like Chess Maniac was inevitable. This parody of other computer chess programs was a joint venture of National Lampoon and Spectrum HoloByte. You can play in two modes: Bawdy and Boring. In Boring Mode you get conventional chess pieces that behave in a conventional way. In Bawdy Mode the chess pieces are animated figures that perform rude little skits whenever a capture takes place.



The 72-page manual is a parody of CQ (*Chessplayer's Quarterly*).

The "optimum system" for this game is an 80486 with 4MB of RAM, 256-color VGA and Roland Sound Canvas and Sound Blaster cards for the full music and sound effects. The game is installed from compressed files on twelve high-density 3.5" disks, and takes up 27MB of hard disk space—a convincing argument for the CD-ROM version.

When the men on the chessboard get up and tell you where to go, don't blame the mushrooms, blame Chess Maniac. (Spectrum HoloByte, Inc., 2490 Mariner Sq. Loop, Alameda, CA 94501. 510/522-3584)

Continued on page 93

Always Store Your Valuables In A Safe Place.

Use Verbatim data storage products like our 3.5-inch and 5.25-inch optical disks or our full line of disk and tape products. Contact one of the dealers listed below for details about these and other quality Verbatim products.

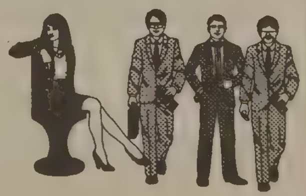
Verbatim

Data-Chem
P.O. Box 291218
Port Orange, Florida 32129
(800) 848-6770

PC Contract Programming

Specializing in:
* Netware 3.11 & 4.0
* Health care applications
* Financial systems
* Hardware control

Our programmers work in a variety of languages. PPS completes over 45 projects each year, many months long. None of our projects have gone past deadline or over budget. And, our Utah rates are much lower than Los Angeles. Call to get more information.



1-800-775-6201 ext 560

Novell NetWare Aware ™

PROFESSIONAL PROGRAMMING SERVICES
175 WEST 200 SOUTH, SUITE 1003
SALT LAKE CITY, UTAH 84101 USA
(801) 359-6200

ESSENCE

17815 Newhope Street, Suite G,

Essence Group's Protection Plan

- **1 Full Year Parts Warranty**
- **2 Year Labor Warranty**
- **"Free" Lifetime Technical Support**

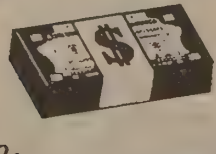
Terms & Conditions:

All parts and systems carry a one year limited warranty except for monitors and printers which are warranted by manufacturers. Any consumable products are not returnable nor refundable. Any opened software is non-refundable. All sales on monitors & printers are final. Repairs need to be sent to the manufacturer. No refund. All returns are subject to our approval and must have prior authorization return items must be in its original condition with invoice. Send shipping prepaid. All refunds or credits are less shipping and bank charges. All refund items must be returned within 14 days of invoice. There will be a 20% restocking fee after the 14 day period and within 30 days of invoice. Thereafter only exchanges and repair for the rest the warranty period. Price, specification and availability subject to change without any notice.

No surcharge on credit card purchase.

Easy Financing Plan Available

2% Cash Discount



2% Cash Discount

Hours:

9 am - 6 pm Mon. - Fri.
10 am - 5 pm Sat P.S.T.

OrchidLocalBus

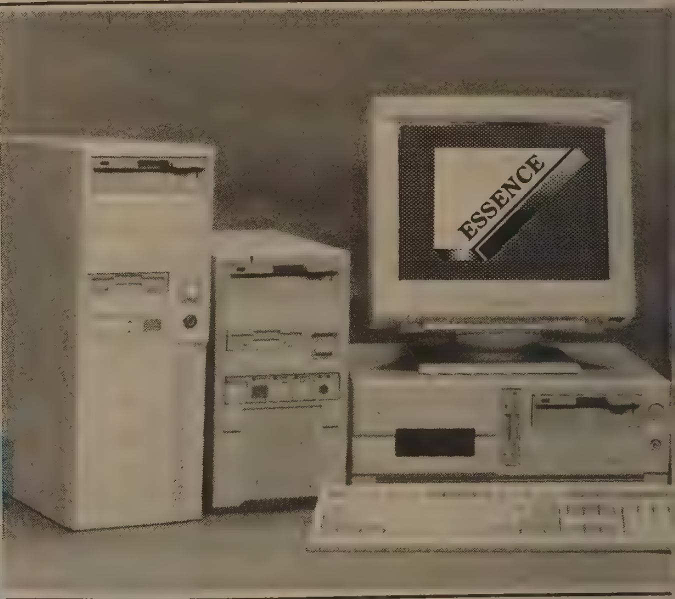
VESAStandard (BusMaster)

486DX2-66	$1350.00
486DX-50	$1270.00
486DX-33	$1110.00

- ✧ Orchid 486DX VESA Local Bus M/B
- ✧ 256K High Speed Cache
- ✧ 4MB Memory onboard expandable up to 32MB
- ✧ TEAC 1.2M & 1.44M FDD
- ✧ 32-Bit Orchid Fahrenheit VLB Graphics Accelerator w/1MB
- ✧ 32-Bit Orchid VLB IDE Controller
- ✧ 2 Serial/1 Parallel/1 Game
- ✧ CS-230 Mid-Veritcal Case
- ✧ 250 Watts UL Power Supply
- ✧ Enhanced 101 Keys Keyboard

Made in USA

VA Options + $40



New ORCHID Celsius/VLB

***Faster than Ever** - outperform ATi VLB mach32*

The Orchid Celsius/VLB is a Windows accelerator for 486 personal computers that provides direct support for the VESA Local Bus (VL-Bus) standard. It combines a Graphical User Interface (GUI) accelerator for incredible speed, flicker-free 90Hz support, 16.8 million true colors, high resolution graphics (1280x1024x16 colors, non-interlaced) and full VESA compliance at an affordable price. In addition to the Windows drivers, the Celsius/VLB comes with high performance 32-bit AutoCAD Display List Drivers.

AIR VESA LocalBus

AIR 486DX2-66VLB	$1325
AIR 486DX-50VLB	$1245
AIR 486DX2-50 VLB	$1195
AIR 486DX-40 VLB	$1115
AIR 486DX-33VLB	$1085

- * AIR 486DX VESA Local Bus M/B
- * 256K High Speed Cache
- * 3 VLB slots, P5 socket for Future upgrade
- * 4MB Memory onboard expandable up to 64MB
- * TEAC 1.2M & 1.44M FDD
- * Orchid Fahrenheit VLB w/1MB
- * 32-Bit VESA Local Bus IDE Controller
- * 2 Serial/1 Parallel/1 Game
- * Mid-Vertical Case
- * 230 Watts Power Supply
- * Enhanced 101 Keys Keyboard

Made in USA

AIR EISA VESA LocalBus

AIR EISA 486DX2-66VLB	$1630
AIR EISA 486DX-50VLB	$1550
AIR EISA 486DX2-50 VLB	$1500
AIR EISA 486DX-40 VLB	$1420
AIR EISA 486DX-33VLB	$1390

- * AIR 486DX EISA VESA Local Bus M/B
- * 256K High Speed Cache, ZIF socket
- * 8 EISA slots, 3 VESA Local Bus slots
- * 4MB Memory onboard expandable up to 128MB
- * TEAC 1.2M & 1.44M FDD
- * Orchid Fahrenheit VLB w/1MB
- * 32-Bit DTC2290 EISA IDE Controller
- * 2 Serial/1 Parallel/1 Game
- * Mid-Vertical Case
- * 230 Watts Power Supply
- * Enhanced 101 Keys Keyboard

Made in USA

NoteBook *(Black Series)*

386SXL-25	$1270
386DX-33	$1360
486SLC-25	$1415
486DX-33	$1745
486DX-33 Color	$2490

- * 9.5" High contrast Mono VGA CCFT backlight display, 64 gray scale, 8.5" Passive matrix Color VGA LCD display for color model
- * 1 Parallel, 1 Serial, External keyboard connector, External CRT connector, 1 Bus expansion pack connector (for modem, network, etc.), 2 Battery packs included
- * One 3.5" 1.44MB internal FDD
- * 80MB HDD (120MB & 200MB available)
- * Upgrade to 120MB HDD +$100.00
- * Upgrade to 200MB HDD +$270.00
- * 2MB for 386SXL-25, 4MB for 386DX-33, 486SLC-25, 486DX-33 & 486DX-33Color
- * Autoswitching AC adapter, Carrying case

VEGA VESA LocalBus

VEGA 486DX2-66VLB	$1300
VEGA 486DX-50VLB	$1220
VEGA 486DX2-50 VLB	$1170
VEGA 486DX-40VLB	$1090
VEGA 486DX-33VLB	$1060

- * VEGA 486DX VESA Local Bus M/B
- * 256K High Speed Cache
- * ZIF socket for Future P5 upgrade
- * 4MB Memory onboard expandable up to 64MB
- * TEAC 1.2M & 1.44M FDD
- * Orchid Fahrenheit VLB w/1MB
- * 32-Bit VESA Local Bus IDE Controller
- * 2 Serial/1 Parallel/1 Game
- * Mid-Vertical Case
- * 230 Watts Power Supply
- * Enhanced 101 Keys Keyboard

Made in USA

VEGA EISA Bus

VEGA EISA 486DX2-66VE	$1560
VEGA EISA 486DX-50VE	$1480
VEGA EISA 486DX-33VE	$1320

- * VEGA 486DX EISA M/B
- * 256K High Speed Cache
- * 4MB Memory onboard expandable up to 128MB
- * TEAC 1.2M & 1.44M FDD
- * 32-Bit Orchid IIs-E 1MB EISA VGA Card
- * 32-Bit DTC2290 EISA IDE Controller
- * 2 Serial/1 Parallel/1 Game
- * Mid-Vertical Case
- * 230 Watts Power Supply
- * Enhanced 101 Keys Keyboard

Made in USA

VEGA ISA Bus

486DX2-66V	$1130
486DX-50V	$1050
486DX2-50V	$975
486DX-40V	$895
486DX-33V	$860
486SX-33V	$760
486SX-25V	$645
486DLC-40V	$710
486DLC-33V	$680
386DX-40V	$590
386DX-33V	$610

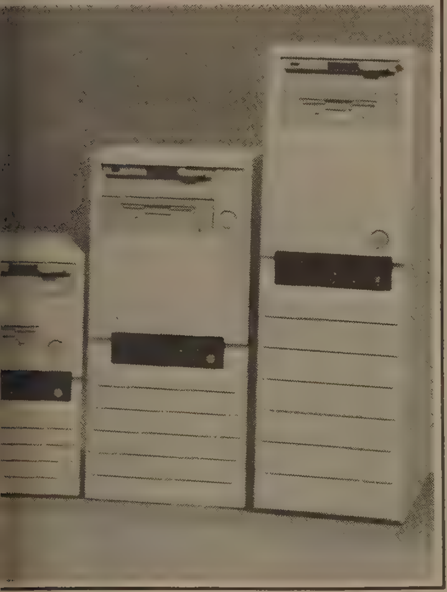
- * VEGA 3486DX ISA M/B
- * 256K Cache for DX2-66/DX-50
- * 64K Cache for DX2-50/DX-33/SX-25/DX-40
- * 4MB Memory on board expandable to 32MB
- * TEAC 1.2M & 1.44M FDD
- * 2 Serial/1 Parallel/1 Game
- * Mid-Vertical Case
- * 230 Watts Power Supply
- * Enhanced 101 Keys Keyboard

Order Hot Line: 714/546-3110 ✧ Fax Order Line: 714/546-3803 ✧ Tec

GROUP

Coming Soon! ESSENCE IRVINE!

Fountain Valley, CA 92708



Essence486 VESA EISA Local Bus

VESA 486DX2-66HLB	$1240
VESA 486DX2-50HLB	$1120
VESA 486DX-40HLB	$1040
VESA 486DX-33HLB	$1010

- HINT 486DX EISA Local Bus M/B
- P24T socket for future P5 upgrade
- ZIF socket +$10.00
- 256K High Speed Cache
- 3 EISA Bus, 2 VESA Local Bus
- 4MB Memory on board expandable up to 32MB
- TEAC 1.2M & 1.44M FDD
- 32-Bit VESA Local Bus IDE Controller
- 32-Bit 1MB VESA Local Bus VGA Card
- 2 Serial/1 Parallel/1 Game
- Mid-Vertical Case
- 230 Watts Power Supply
- Enhanced 101 Keys Keyboard

Essence486 VESA Local Bus

VESA 486DX2-66LB	$1145
VESA 486DX-50LB	$1065
VESA 486DX2-50LB	$1020
VESA 486DX-40LB	$940
VESA 486DX-33LB	$910

- VESA Local Bus 486DX M/B
- 256K High Speed Cache
- ZIF socket +$15.00
- 4MB Memory on board expandable up to 32MB
- TEAC 1.2M & 1.44M FDD
- 32-Bit VESA Local Bus IDE Controller
- 32-Bit 1MB VESA Local Bus VGA Card
- 2 Serial/1 Parallel/1 Game
- Mini-Vertical Case
- 200 Watts Power Supply
- Enhanced 101 Keys Keyboard

Essence486 Series

486DX2-66	$1020
486DX-50	$1940
486DX2-50	$875
486DX-40	$795
486DX-33	$760
486SX-33	$655
486SX-25	$555

- 486DX/SX M/B
- 256K Cache for DX2-66/DX-50
- 128K Cache for DX2-50/DX-40/ DX-33/SX-33/SX-25
- 4MB Memory on board
- TEAC 1.2M & 1.44M FDD
- IDE FDD & HDD Controller
- 2 Serial/1 Parallel/1 Game
- Mini-Vertical Case
- 200 Watts Power Supply
- Enhanced 101 Keys Keyboard

Essence386 Series

386DX-40	$490
386DX-33	$510
386SX-40	$370
386SX-33	$360

- 386DX-40/33 SX-40/33 M/B
- 128K High Speed Cache (0K for SX-40 & SX-33)
- 4MB Memory on board (2MB for 386SX)
- TEAC 1.2M & 1.44M FDD
- IDE FDD & HDD Controller
- 2 Serial/1 Parallel/1 Game
- Mini-Vertical Case
- 200 Watts Power Supply
- Enhanced 101 Keys Keyboard

Essence486DLC

486DLC-40	$610
486DLC-33	$585

- 486DLC M/B
- Cyrix 486DLC Microprocessor
- Math Coprocessor included
- 128K High Speed Cache
- 4MB Memory on board
- TEAC 1.2M & 1.44M FDD
- IDE FDD & HDD Controller
- 2 Serial/1 Parallel/1 Game
- Mini-Vertical Case
- 200 Watts Power Supply
- Enhanced 101 Keys Keyboard

Upgrade Options

For ISA Systems:

14" DigiView 1401 Super VGA Monitor (.39dp) w/AVGA-3 1MB VGA Card	$267
14" DigiView 1428 Super VGA Monitor (.28dp) w/AVGA-3 1MB VGA Card	$307
14" DigiView 1430ni Non-Interlaced Monitor (.28dp) w/AVGA-3 1MB VGA Card	$330
14" CTX-5468A Super VGA Monitor (.28dp) w/AVGA-3 1MB VGA Card	$315
14" CTX-5468NI Non-Interlaced Color Monitor (.28dp) w/AVGA-3 1MB VGA Card	$337
14" CTX-1461 Digital Auto-Tracking Monitor (.28dp) w/AVGA-3 1MB VGA Card	$370
15" CTX-1560 Digital Auto-Tracking Monitor (.28dp) w/Orchid Fahrenheit 1MB Graphics Accelerator	$690
17" CTX-1760 Digital Auto-Tracking Monitor (.28dp) w/Orchid Fahrenheit 1MB Graphics Accelerator	$940
14" ViewSonic 6E Non-Interlaced Color Monitor (.28dp) w/AVGA-3 1MB VGA Card	$373
14" ViewSonic 5E Non-Interlaced Color Monitor (.28dp) w/AVGA-3 1MB VGA Card	$435
17" ViewSonic 7 Digital Auto-Tracking Monitor (.28dp) w/Orchid Fahrenheit 1MB Graphics Accelerator	$1040
15" ViewSonic 15 Digital Multi-Frequency Monitor w/Orchid Fahrenheit 1MB Graphics Accelerator	$685
17" ViewSonic 17 Digital Auto-Tracking Monitor (.28dp) w/Orchid Fahrenheit 1MB Graphics Accelerator	$1205
20" ViewSonic 20 Digital Auto-Tracking Monitor w/Orchid Fahrenheit 1MB Graphics Accelerator	$1865
MAG-15F/H Digital Non-Interlaced Monitor w/Orchid Fahrenheit 1MB Graphics Accelerator	$700
MAG-17F/H Digital Non-Interlaced Monitor w/Orchid Fahrenheit 1MB Graphics Accelerator	$1130

Hard Disk Subsystem & Other Options (w/Systems):

40MB IDE HDD	$124
80MB IDE HDD	$176
120MB IDE HDD	$188
170MB IDE HDD	$214
200MB IDE HDD	$232
240MB IDE HDD	$240
340MB IDE HDD	$329
520MB IDE HDD	$725
Tekram DC-600 IDE Caching Controller w/2MB	$190
MicroSoft DOS 6.0	$40
MicroSoft Windows 3.1 w/Mouse	$58
Internal 2400 Buad Data Modem	$29
Internal 9600/2400 Baud Fax Modem	$52
Internal 14400/14400 Baud Fax Modem	$165
Mitsumi CRMC Intrenal CD-ROM	$195
Sony CDU-31A Internal CD-ROM	$235
Sound Blaster Pro	$136
Media-Vision Pro Audio Spectrum 16 Sound Card	$178
Orchid Sound Producer Pro w/Speaker & Mic	$99
Power Center (UL)	$16
Mitac Multimedia Starter Kit	$390

- Mitsumi CRMC Internal CD-ROM (350ms)
- Sound Blaster Pro compatible sound card
- 5 CD Titles: Compton's Multimedia Encyclopedia for Windows, The KGB/CIA World Fact Book, Dictionary of the Living World, Grammy Awards, & CD-ROM Software Jukebox
- and a pair of speakers

For EISA & VESA Local Bus Systems:

ViewSonic 6E 14" Non-Interlaced Monitor	$318
ViewSonic 5E 14" Non-Interlaced Monitor	$380
ViewSonic 7 17" Digital Multi-Frequency Monitor	$883
ViewSonic 15 15" Digital Multi-Freqency Monitor	$522
ViewSonic 17 17" Digital Multi-Frequency Monitor	$1048
ViewSonic 20 20" Digital Multi-Frequency Monitor	$1711
CTX-5468NI 14" Non-Interlaced Monitor	$282
CTX-1461 14" Non-Interlaced Monitor	$315
CTX-1560 15" Digital Non-Interlaced Monitor	$430
CTX-1760 17" Digital Non-Interlaced Monitor	$780
MAG 1564 15" Digital Non-Interlaced Monitor	$440
MAG 15F/H 15" Digital Non-Interlaced Monitor	$540
MAG 17F/H 17" Digital Non-Interlaced Monitor	$975
NEC 3FGe Multi-Frequecny Monitor	$625
NEC 4FGe Multi-Frequecny Monitor	$740
NEC 5FGe Multi-Frequency Monitor	$1125
Optiquest 1500D 14" Digital Non-Interlaced Monitor	$370
Optiquest 2000DX 15" Digital NI Monitor	$445
Optiquest 4000DX 17" Digital NI Monitor	$664

Memory Upgrade:

4MB (386SX) from 2MB	$85
8MB (486DX/SX, 386DX) from 4MB	$170
16MB (486DX/SX, 386DX) from 8MB	$450

Tape Backup:

Archive 9250i 250MB Tape Backup	$175
Colorado DJ-10 120MB Tape Backup	$155
Colorado DJ-20 250MB Tape Backup	$205
Colorado JT-10 120MB Parallel Tape Backup	$305
Colorado JT-20 250MB Parallel Tape Backup	$415

For more parts see listings on next page

cal Support: 714/546-7902

Panasonic
Office Automation OA

Authorized Panasonic Reseller

Pansonic KX-P1123 Printer	$182
Panasonic KX-P2023 Quiet Printer	$198
Panasonic KX-P2180 Quiet Printer	$166
Panasonic KX-P2123 Quiet Printer	$235
Panasonic KX-P2124 Quiet Printer	$314
Panasonic KX-P2624 Quiet Printer	$378
Panasonic KX-P4410 Laser Printer	$609
Panasonic KX-P4430 Laser Printer	$689

ViewSonic 15

The award-winning family of ViewSonic monitors now includes the **New Generation** ViewSonic 15. It features **ViewMatch** color control along with exceptional clarity and brilliance. And, with the ultra high **76Hz refresh rate at 1024x768**, the multifrequency monitor provides the user with a complete flicker free image.

With its larger flat square screen, the monitor offers a beautiful display with a full edge-to-edge crisp, glare-free image. The new ergonomically designed drop-down control panel makes it extremely easy to adjust size, position, color and pin-cushioning. In keeping with today's concern for a safer environment, the ViewSonic 15 meets strict Swedish MPR-II low radiation standards. And, for home use, it is FCC Class B approved.

$522

Star Moon Star WILD Multi-Media Upgrade Kit

Upgrade Kit included:

SONY CDU-31A CD-ROM

- The lastest CD-ROM from SONY, 680MB capacity, 64KB buffer size, 150KB data transfer rate, 490ms access speed, built-in caddy for ease of use

Sun Moon Star Stereo Sound Board

- MPC, Ad Lib, and Sound Blaster Pro Basic compatible
- Stereo Digital/Analog mixer for stereo audio sources: DAC, FM, microphone, line-in and CD
- Sampling with 8-bit stereo DACs and ADCs selectable sampling rates: 4 - 44.1 KHz
- 20-voice, 4-operator OLP3 FM synthesier
- Built-in MIDI interface for music and sound creation
- Standard PC joystick port
- Microphone Automatic Gain Control (AGC) amplifier
- Output power amplifier with volume control
- Built-in interface for SONY CDU-31A

Bundled Multimedia CD titles including:

- Multimedia Encyclopedia '92
- World Atlas
- U.S. Altas
- Chessmaster 3000
- Mavis Beacon Teaches Typing V.20

$415

MULTIMEDIA SYSTEMS

Sun Moon Star Multimedia Upgrade Kit - SONY CDU-31A Internal CD-ROM Drive - 490ms - Sun Moon Star stereo sound board with sound utilities and bulti-in CDU-31A interface, Sound blaster Pro Basic compatible - 5 leading multimedia CD titles - Multimedia Encyclopedia '92, World Atlas, U.S. Atlas, Chessmaster 3000 and Beacon's Typing Program - A pair of Mini Speakers	$415.00
Mitac Multimedia Upgrade Kit - Mitsumi Internal CRMC CD-ROM (350ms, Kodak Photo CD compatible) - Sound Galaxy NX Pro Sound Card - Shielded Stereo Computer Speakers - Software bundled: Compton's Multimedia Encyclopedia for Windows, The KGB/CIA World Factbook, Dictionary of the Living World, Grammy Awards, CD-ROM Software Jukebox	$395.00
Creative Labs Discovery CD 8 Upgrade Kit (Internal) - **Sound Blaster Pro** Stereo Sound Card - Creative Labs Internal CD-ROM (Panasonics CD-ROM), 64KB Buffer, 150KB/sec Data Transfer, 390ms Access rate, Photo CD compatible - A pair of Stereo Speakers - Software bundled: Multimedia Encyclopedia, The Animals!, Lemmings	$405.00
Creative Labs Discovery CD 16 Upgrade Kit (Internal) - **Sound Blaster 16** Stereo Sound Card - Creative Labs Internal CD-ROM (Panasonics CD-ROM), 64KB Buffer, 150KB/sec Data Transfer, 390ms Access rate, Photo CD compatible - A pairs of Stereo Speakers - Software bundled: Multimedia Encyclopedia, The Animals!, Lemmings	$465.00
Creative Labs Eduaterment CD 8 Upgrade Kit (Internal) - **Sound Blaster Pro** Stereo Sound Card - Creative Labs Internal CD-ROM (Panasonics CD-ROM), 64KB Buffer, 150KB/sec Data Transfer, 390ms Access rate, Photo CD compatible - A pairs of Stereo Speakers - Software bundled: The San Diego Zoo Presents ... The Animals!, Where in the World is Carmen Diego?, Multimedia Enclopedia, Just Grandma and Me, The Secret of Monkey Island, Loom, Secret Weapons of the Luftwaffe, Sherlock Holmes - Consulting Detective	$465.00
Creative Labs Eduaterment CD 16 Upgrade Kit (Internal) - **Sound Blaster 16** Stereo Sound Card - Creative Labs Internal CD-ROM (Panasonics CD-ROM), 64KB Buffer, 150KB/sec Data Transfer, 390ms Access rate, Photo CD compatible - A pairs of Stereo Speakers - Software bundled: The San Diego Zoo Presents ... The Animals!, Where in the World is Carmen Diego?, Multimedia Enclopedia, Just Grandma and Me, The Secret of Monkey Island, Loom, Secret Weapons of the Luftwaffe, Sherlock Holmes - Consulting Detective	$525.00
Media Vision Fusion CD 16 (Internal) - SONY CDU-31A Internal CD-ROM Drive - 490ms - Media Vision Pro Audio 16 Stereo Sound Card - High-quality Labtec Amplified Speaker System - Software bundled: Carmen San Diego, Compton's New Media, Wing Commander II, Ultima Underworld	$495.00
Media Vision Fusion CD 16 (External) - NEC External CD-ROM Drive - Media Vision Pro Audio 16 Stereo Sound Card - High-quality Labtec Amplified Speaker System - Software bundled: Carmen San Diego, Compton's New Media, Wing Commander II, Ultima Underworld	$475.00
Media Vision Pro-16 Multimedia System II - NEC CDR-84 Internal SCSI CD-ROM (Multi-Session, 280ms) - Media Vision **Pro Audio Studio 16** Stereo Sound Card - Software bundled: Carmen San Diego, Compton's Encyclopedia, Lotus 1-2-3, King's Quest V, Nautilus CD, and MacroMind Action! CD	$895.00
Media Resource Pro-16 Multimedia System - Toshiba 3401B Internal SCSI CD-ROM (Multi-Session, 200ms) - Media Vision Pro Audio Spectrum 16 Stereo Sound Card -A pair of Speakers	$635.00
Media Resource Digital Multimedia System - Toshiba 3401B Internal SCSI CD-ROM (Multi-Session, 200ms) - Media Master Digital 16 Stereo Sound Card - A pair of Stereo Digital Sound Speakers	$715.00

CD-ROMS

Mitsumi CRMC Internal CD-ROM w/Interface (350ms)	$195.00
NEC CDR-74-1 External SCSI CD-ROM (280ms)	$590.00
NEC CDR-84-1 Internal SCSI CD-ROM (280ms)	$470.00
Panasonic CR-522-B Internal CD-ROM w/Interface	$235.00
SONY CDU-31A Internal CD-ROM w/Interface	$235.00
SONY CDU-31A External CD-ROM w/Interface	$295.00
SONY CDU-541 Internal SCSI CD-ROM	$440.00
TEXEL DM3024 Internal SCSI CD-ROM w/Interface	$420.00
TEXEL DM3024 Internal SCSI CD-ROM (265ms)	$395.00
TEXEL DM5024 External SCSI CD-ROM	$520.00
Toshiba 3401B Internal SCSI CD-ROM	$475.00
Toshiba 3401B Internal SCSI CD-ROM w/Interface - Fully integrated Audio, Double-speed, MPC compliant, Multi-Session Kodak Photo CD compliant, SCSI-2	$500.00

SOUND CARDS

Creative Lab Sound Blaster Deluxe	$85.00
Creative Lab Sound Blaster Pro Deluxe	$136.00
Creative Lab Sound Blaster 16 ASP	$240.00
Creative Lab Video Blaster w/Microsoft video for Win	$355.00
Media Vision Pro Audio Spectrum 16 Sound Card	$178.00
Media Vision Pro Audio Studio 16 Sound Card	$235.00
Orchid Sound Producer Pro w/Mic & Speaker	$99.00
Sound Blaster Pro w/SONY-31A CD-ROM Interface	$120.00
Sound Commander Pro CD Bundle Package - w/SONY-31A CD-ROM Interface & Speakers - Bundled SW: CD Studio, Karaoke Software, PC Organ, Windows Driver & Audio Mixer	$135.00
Sun Moon Star Multimedia Sound Set - w/Sound Blaster Pro Sound Card w/SONY-31A CD-ROM Interface - Bundled Software Mario is Missing, & D/Generation	

SPEAKERS & ACCESSORIES

Labtec AM-22 Deluxe Microphone	$13.95
Labtec C-10 Computer Stereo Headphone	$14.95
Labtec CS-150 Shielded Amplified Stereo Speakers	$19.50
Labtec CS-180 Shielded Amplified Stereo Speakers	$23.50
Labtec CS-550 Shielded Amplified Stereo Speakers w/Built-in Power Boosters	$27.50
Labtec SS-700 Shielded Amplified Stereo Speakers w/3 Band EQ	$32.50
Labtec CS-800 Shielded Amplified Stereo Speakers w/AC Adapter (5Watts)	$39.50
Labtec CS-1000 Shielded Amplified Stereo Speakers	$95.00
Labtec AD-4 400mA AC Adapter (for Speakers System)	$9.95
Zoltrix ZX-55 Mini Speakers	$9.95
Zotlrix ZX-28 Shielded Amplified Stereo Speakers w/3Band EQ	$27.95

CD TITLES

CD Pak for DOS - 6 Titles: Multimedia Encyclopedia, The Animals!, Reference Library, US Atlas, World Altas, & The Secret of Monkey Island	$92.00
CD Pak for Windows - 6 Titles: Multimedia Encyclopedia, The Animals!, Chessmaster 3000, US Atlas, World Atlas, & Beacon Teaches Typing 2.0	$92.00
CD Pak for Home - 5 Titles: Tempra Access Photo CD, The Animals!, US Atals, World Atlas, & Mayo Clinic	$72.00
CD Pak for Entertainment - 5 Titles: Mario is Missing, D/Generation, Chessmaster 3000, Wind Commander / Ultima VI, & The Secret of Monkey Island	$72.00
CD Quartet 1 - US Atlas, World Atlas, Chessmaster 3000, Mavis Beacon Teaches Typing	$38.00
CD Quartet 2 - US Atlas, World Atlas, Reference Labrary, Secret of Monkey Island	$43.00

BUSSINESS

American Bus Phone Book - 1992 (DOS)	$27.00
Authorware Star (MPC)	$52.00
Business & Economy Atlas (DOS)	$29.00
Kodak Photo CD (MPC)	$25.00
Lotus 1-2-3 V3.1 (MPC)	$89.00
Macromind Action (MPC)	$36.00
Marketing Master 1992 (DOS)	$28.00
Microsoft Works (MPC)	$50.00
Publish It 2.0 (DOS)	$27.00
TEMPRA Access Photo CD Imaging Software (DOS)	$24.00

EDUCATION

Animals! (MPC)	$24.00
Annabel's Dreams (MPC)	$85.00
Arthur's Teacher Trouble (MPC)	$32.00
Audubon's Mammals (DOS)	$31.00
Audubon's Birds (DOS)	$31.00
Barron's College Guide (MPC)	$29.00
Bring the World to Your Senses (DOS)	$19.00
Carmen San Diego (DOS)	$30.00
Choose your College	$21.00
Collection of PC Graphics (DOS)	$22.00
Composer Quest (MPC)	$34.00
Compton's Encyclopedia (MPC)	$64.00
Corp Snapshot (DOS)	$36.00
Dictionary of the Living World (MPC)	$34.00
Dinosaur Adventure (MPC)	$32.00
DTP Pro FM - Wave Clipart	$26.00
Electronic Home Library (DOS)	$30.00
Family Choice / Britannica (DOS)	$27.00
Family Doctor (DOS/MAC)	$27.00
Family Education Collections (DOS)	$28.00
Great Cities - Vol. 1 (DOS)	$28.00
Great Cities - Vol. 2 (DOS)	$28.00
Jets & Props - Aris (MPC)	$28.00
Language of the World for Windows (MPC)	$40.00
Library of Future 1st (DOS)	$51.00
MacMillan Dictionary for Children (MPC)	$34.00
Mavis Beacon Teaches Typing (MPC)	$27.00
Media Clips - Jets,Props,View,Place (MPC)	$46.00
Microsoft BookShelf (MPC)	$50.00
National Geographic Mammals (DOS)	$31.00
National Parks (DOS)	$23.00
Ocean Digital Imagery V1 (DOS)	$40.00
Playing Language - English (DOS)	$30.00
Playing Language - French (DOS)	$30.00
Playing Language - Germany (DOS)	$30.00
Playing Language - Japanese (DOS)	$30.00
Playing Language - Spanish (DOS)	$30.00
Presidents (DOS)	$78.00
Renaissance Master I (MPC)	$34.00
Renaissance Master II (MPC)	$34.00
Illustrated Works of Shakespeare	$23.00
Sleeping Beauty (MPC)	$25.00
Sound Library (MPC)	$21.00
Survey of Western Arts (MPC)	$34.00
TIME Almanac - 1991 (DOS)	$32.00
Time Table of History (DOS)	$21.00
Toolworks Multimedia Encyclopedia (MPC)	$57.00
Toolworks Reference Library (DOS)	$25.00
U.S. Atlas & Automap (DOS)	$28.00
Atlas Pak - US / World Atlas (DOS)	$23.00
U.S. Histroy (DOS)	$28.00
USA Wars: Civil War (DOS)	$46.00
USA Wars: Desert Storm (MPC)	$28.00
USA Wars: Korea (DOS)	$46.00
USA Wars: World Wae II (DOS)	$46.00
USA Wars: Vietnam (DOS)	$46.00
Vital Signs (MPC)	$85.00
Whale of Tale	$84.00
Wild Places (DOS)	$19.00
WinWare Vol 3	$27.00
World View (DOS)	$19.00

ENTERTAINMENT

Amanda Stories (MPC)	$53.00
Battle Chess (DOS)	$26.00
Beauty & Beast (MPC)	$22.00
Beyond the World of Stars (DOS)	$29.00
CD Game Pak II (DOS)	$30.00
CD Storytime (DOS)	$25.00
Chessmaster 3000 (MPC)	$23.00
CIA World Fact Book (DOS)	$27.00
Guinness Disc of Records 1993 (MPC)	$30.00
Guinness Disc of Records (DOS)	$19.00
Interactive Storytime Vol 1 (DOS)	$27.00
Jones in the Fast Lanes (MPC)	$25.00
King's Quest V (DOS)	$25.00
Loom from Lucas Film (DOS)	$25.00
Mantis Experimental Fighter (DOS)	$22.00
Mario is Missing / D/Generation (DOS)	$33.00
Mario Mission / World Atlas (DOS)	$30.00
Mayo Clinic Family Health Book (DOS)	$24.00
MIDI Music Shop (MPC)	$27.00
Mixed up Mother Goose (MPC)	$25.00
The Secret of Monkey Island (DOS)	$24.00
PC-SIG 11th Edition (DOS)	$23.00
Peter & the Wolf (MPC)	$22.00
Secret Weapons of Luftwaffe (DOS)	$25.00
Sherlock Holmes (DOS)	$25.00
So Much Sharewaew I (DOS)	$20.00
So Much Shareware II (DOS)	$25.00
Space Adventure (MPC)	$32.00
Space Quest IV	$25.00
Sport's Best (3 in 1) (DOS)	$26.00
Stellar 7 (DOS)	$25.00
Total Baseball (DOS)	$25.00
Who Killed Sam Rupert (DOS/MPC)	$34.00
Willie Beamish - The Adventure (DOS)	$25.00
Wing Commader / Ultima VI (DOS)	$25.00
Wizard	$21.00

SYSTEM BOARDS (0K)

VESA Local Bus System Boards (w/CPU)

Orchid 486DX2-66MHz VESA Local Bus M/B w/256K Cache	$746.00
Orchid 486DX-50MHz VESA Local Bus M/B w/256K Cache	$681.00
Orchid 486DX2-50MHz VESA Local Bus M/B w/256K Cache	$634.00
Orchid 486DX-40MHz VESA Local Bus M/B w/256K Cache	$566.00
Orchid 486DX-33MHz VESA Local Bus M/B w/256K Cache	$531.00
AIR Baby 486DX2-66MHz VESA Local Bus M/B w/256K Cache	$740.00
AIR Baby 486DX-50MHz VESA Local Bus M/B w/256K Cache	$670.00
AIR Baby 486DX2-50MHz VESA Local Bus M/B w/256K Cache	$628.00
AIR Baby 486DX-40MHz VESA Local Bus M/B w/256K Cache	$555.00
AIR Baby 486DX-33MHz VESA Local Bus M/B w/256K Cache	$525.00
VEGA Baby 486DX2-66MHz VESA Local Bus M/B w/256K Cache	$715.00
VEGA Baby 486DX-50MHz VESA Local Bus M/B w/256K Cache	$645.00
VEGA Baby 486DX2-50MHz VESA Local Bus M/B w/256K Cache	$603.00
VEGA Baby 486DX-40MHz VESA Local Bus M/B w/256K Cache	$535.00
VEGA Baby 486DX-33MHz VESA Local Bus M/B w/256K Cache	$500.00
EFAR Baby 486DX2-66MHz VESA Local Bus M/B w/256K Cache	$675.00
EFAR Baby 486DX2-50MHz VESA Local Bus M/B w/256K Cache	$563.00
EFAR Baby 486DX-40MHz VESA Local Bus M/B w/256K Cache	$495.00
EFAR Baby 486DX-33MHz VESA Local Bus M/B w/256K Cache	$460.00
OPTI Mini 486DX2-66MHz VESA Local Bus M/B w/256K Cache	$670.00
OPTI Mini 486DX-50MHz VESA Local Bus M/B w/256K Cache	$600.00
OPTI Mini 486DX2-50MHz VESA Local Bus M/B w/256K Cache	$558.00
OPTI Mini 486DX-40MHz VESA Local Bus M/B w/256K Cache	$490.00
OPTI Mini 486DX-33MHz VESA Local Bus M/B w/256K Cache	$455.00
Hint Baby 486DX2-66MHz EISA VESA Local Bus M/B w/256K Cache	$732.00
Hint Baby 486DX2-50MHz EISA VESA Local Bus M/B w/256K Cache	$620.00
Hint Baby 486DX-40MHz EISA VESA Local Bus M/B w/256K Cache	$552.00
Hint Baby 486DX-33MHz EISA VESA Local Bus M/B w/256K Cache	$517.00

VESA Local Bus Video Cards & Controllers:

ATi VLB mach 32 VESA Local Bus Graphics Accelerator w/2MB	$380.00
Cirrus Logic GD5426 1MB VESA Local Bus Graphics Accelerator	$99.00
Diamond SpeedStar Pro VESA Local Bus Graphics Accelerator w/1MB	$135.00
Diamond Stealth-24 VESA Local Bus Graphics Accelerator w/1MB	$175.00
Diamond Stealth Pro VESA Local Bus Graphics Accelerator w/1MB	$260.00
Diamond Viper VESA Local Bus Graphics Accelerator w/2MB VRAM	$400.00
Genoa 1MB VESA Local Bus Graphics Accelerator	$109.00
Oak 087 1MB VESA Local Bus Graphics Accelerator	$99.00
Orchid Fahrenheit VESA Local Bus Windows Accelerator w/1MB	$165.00
Orchid Celius VESA Local Bus Graphics Accelerator w/1MB	$240.00
Orchid P9000 VESA Local Bus Graphics Accelerator w/3MB	$390.00
Orchid IO440-0 VESA Local Bus IDE Controller w/Multi I/o	$66.00
Turbo VESA Local Bus IDE Controller w/Multi I/O	$68.00
VESA Local Bus IDE Controller with Multi I/O	$41.00
Tekram DC-680 VESA Local Bus IDE Caching Controller (up to 16MB)	$171.00
UltraStor 34F VESA Local Bus SCSI Controller (Bus Master)	$285.00

EISA Bus & EISA Local Bus System Boards (w/CPU)

AIR Baby 486DX2-66MHz EISA M/B w/256K Cache (USA made)	$935.00
AIR Baby 486DX-50MHz EISA M/B w/256K Cache (USA made)	$865.00
AIR Baby 486DX2-50MHz EISA M/B w/256K Cache (USA made)	$823.00
AIR Baby 486DX-40MHz EISA M/B w/256K Cache (USA made)	$750.00
AIR Baby 486DX-33MHz EISA M/B w/256K Cache (USA made)	$720.00
VEGA Baby 486DX2-66MHz EISA M/B w/256K Cache (USA made)	$880.00
VEGA Baby 486DX-50MHz EISA M/B w/256K Cache (USA made)	$810.00
VEGA Baby 486DX-33MHz EISA M/B w/256K Cache (USA made)	$665.00
OPTI Baby 486DX2-66MHz EISA Local Bus M/B w/256K Cache	$740.00
OPTI Baby 486DX-50MHz EISA Local Bus M/B w/256K Cache	$680.00
OPTI Baby 486DX-33MHz EISA Local Bus M/B w/256K Cache	$525.00

ISA Bus System Boards (w/CPU)

VEGA Baby (3)486DX2-66MHz M/B w/256K Cache (USA made)	$710.00
VEGA Baby (3)486DX-50MHz M/B w/256K Cache (USA made)	$640.00
VEGA Baby (3)486DX2-50MHz M/B w/64K Cache (USA made)	$576.00
VEGA Baby (3)486DX-40MHz M/B w/64K Cache (USA made)	$505.00
VEGA Baby (3)486DX-33MHz M/B w/64K Cache (USA made)	$468.00
VEGA Baby (3)486DLC-40MHz M/B w/64K Cache (USA made)	$332.00
VEGA Baby (3)486DLC-33MHz M/B w/64K Cache (USA made)	$303.00
VEGA Baby (3)486SX-33MHz M/B w/64K Cache (USA made)	$375.00
VEGA Baby (3)486SX-25MHz M/B w/64K Cache (USA made)	$269.00
VEGA Baby 3(4)86DX-40MHz M/B w/64K Cache (USA made)	$208.00
EFAR Baby (3)486DX2-66MHz M/B w/256K Cache (USA made)	$655.00
EFAR Baby (3)486DX-50MHz M/B w/256K Cache (USA made)	$585.00
EFAR Baby (3)486DX2-50MHz M/B w/64K Cache (USA made)	$528.00
EFAR Baby (3)486DX-40MHz M/B w/64K Cache (USA made)	$457.00
EFAR Baby (3)486DX-33MHz M/B w/64K Cache (USA made)	$420.00
EFAR Baby (3)486DLC-40MHz M/B w/64K Cache (USA made)	$284.00
EFAR Baby (3)486DLC-33MHz M/B w/64K Cache (USA made)	$255.00
EFAR Baby (3)486SX-33MHz M/B w/64K Cache (USA made)	$327.00
EFAR Baby (3)486SX-25MHz M/B w/64K Cache (USA made)	$221.00
EFAR Baby 3(4)86DX-40MHz M/B w/64K Cache (USA made)	$160.00
OPTI Mini 486DX2-66MHz M/B w/256K Cache (Write-back cache)	$655.00
OPTI Mini 486DX-50MHz M/B w/256K Cache (Write-back cache)	$585.00
OPTI Mini 486DX2-50MHz M/B w/128K Cache (Write-back cache)	$528.00
OPTI Mini 486DX-40MHz M/B w/128K Cache (Write-back cache)	$457.00
OPTI Mini 486DX-33MHz M/B w/128K Cache (Write-back cache)	$420.00
OPTI Mini 486SX-33MHz M/B w/128K Cache (Write-back cache)	$327.00
OPTI Mini 486SX-25MHz M/B w/128K Cache (Write-back cache)	$221.00
SIS Mini 486DX2-66MHz M/B w/256K Cache	$640.00
SIS Mini 486DX-50MHz M/B w/256K Cache	$570.00
SIS Mini 486DX2-50MHz M/B w/64K Cache	$531.00
SIS Mini 486DX-40MHz M/B w/64K Cache	$460.00
SIS Mini 486DX-33MHz M/B w/64K Cache	$423.00
SIS Mini 486SX-33MHz M/B w/64K Cache	$330.00
SIS Mini 486SX-25MHz M/B w/64K Cache	$224.00
PC Chip Mini 486SX-25MHz M/B (No Cache)	$194.00
OPTI Mini 486DLC-40MHz M/B w/128K Cache (w/Math Co)	$282.00
OPTI Mini 486DLC-33MHz M/B w/128K Cache (w/Math Co)	$235.00
OPTI Mini 386DX-40MHz M/B w/128K Cache (Write-back cache)	$156.00
UMC Mini 386DX-40MHz M/B w/128K Cache (Write-back cache)	$159.00
OPTI Mini 386DX-33MHz M/B w/128K Cache (AMD CPU)	$174.00
UMC Mini 386DX-33MHz M/B w/128K Cache (AMD CPU)	$177.00
**** 256K Cache upgrade from 64K for all 486 and 386 M/B*	*$42.00*
**** 256K Cache upgrade from 128K for all 486 and 386 M/B*	*$28.00*
PC Mini 386SX-40MHz M/B	$101.00
OPTI Mini 386SX-33MHz M/B	$130.00
PC Mini 386SX-33MHz M/B	$93.00

ESSENCE GROUP

17815 Newhope Street, Suite G, Fountain Valley, CA 92708
Order Hot Line: 1-714-546-3110 ◇ Technical Support: 1-714-546-7902 ◇ Fax Order Line: 1-714-546-3803

ESSENCE GROUP

17815 Newhope Street, Suite G, Fountain Valley, CA 92708
Order Hot Line: 1-714-546-3110 ◇ Technical Support: 1-714-546-7902 ◇ Fax Order Line: 1-714-546-3803

ADD-ON BOARDS

Mono/Graphics/Printer Card	$14.00
AVGA-1 VGA Card w/256K	$27.00
AVGA-3 (Cirrus Logic GD5420) 1MB Graphics Accelerator (32K color)	$55.00
AVGA-3 (Cirrus Logic GD5422) 1MB Graphics Accelerator (32K color)	$60.00
TVGA-9000 VGA Card w/256K (Trident 9000 Chipset,upto 512K)	$32.00
TVGA-8900CL 1MB SuperVGA Card (2x faster than Trident 8900C)	$58.00
PVGA-1C VGA Card w/256K (WD90C11 Chipset,upto 512K)	$46.00
PVGA-1DW **Graphics Accelerator** w/1MB & Hi-Color Chip	$90.00
ATi Graphics Ultra w/1MB VRAM & Mouse	$211.00
ATi Graphics Ultra Plus (1280x1024, 2MB Dram)	$249.00
ATi Graphics Ultra Pro (1280x1024 Non-Interlaced, 2MB VRam)	$349.00
ATi Graphics Ultra Pro EISA w/2MB VRAM	$518.00
Diamond SpeedStar Pro Graphics Accelerator w/1MB	$132.00
Diamond Stealth-24 1MB Windows Accelerator (16Million colors)	$168.00
Diamond Stealth Pro Graphics Accelerator w/1MB VRAM	$255.00
Orchid Pro-Designer IIs 1MB VGA Card w/Sierra RAMDAC	$135.00
Orchid Pro-Designer IIs-E 1MB **EISA**VGA Card w/Sierra RAMDAC	$163.00
Orchid Fahrenheit **Windows Accelerator (24-bit, 16.7Mil colors)** w/1MB	$165.00
Orchid Fahrenheit-VA **Windows Accelerator with Voice Annotation** w/1MB - 24bit, 16.7Million colors, 1280x1024, Audio capabilities	$180.00
AT I/O (2 Serial 1 Parallel 1Game) Card	$14.00
High Speed AT I/O (2 Serial 1 Parallel) - compatiable 16C550	$39.00
Parallel (Printer) Card	$10.00
AT IDE Adapter (Dual floppy & hard disk) w/Cable	$15.00
AT Super IDE IO Adapter (Dual floppy & hard disk, 2S, 1P, 1G)	$18.00
GSI-11V **2.88M** Four (4) Floppy Controller & Cable	$55.00
GSI-18V **Co-resident IDE** Controller (Works with ST412,ESDI,SCSI)	$42.00
GSI-21V **2.88M** Four (4) Floppy & Intelligent IDE Adapter w/Cable	$62.00
Promise **IDE Caching** Controller (512K,upto 8.5MB,2FD/2HD)	$120.00
Promise VESA Local Bus IDE Caching Controller - DC-4030VL	$191.00
Tekram DC-600B ISA IDE **Caching** Controller (up to 16MB)	$125.00
Tekram DC-680 **VESA Local Bus** IDE **Caching** Controller (up to 16MB)	$171.00
DTC-2290 **EISA** IDE Floppy/Hard Disk Contorller	$121.00
DTC-3290 **EISA** SCSI **Caching** FD/HD Controller (0K,upto 4MB)	$435.00
DTC-3292 **EISA** SCSI FD/HD Controller	$325.00
UltraStor 14F SCSI FD/HD Controller	$210.00
UltraStor 24F **EISA** SCSI FD/HD Controller	$370.00
UltraStor 34F **VESA Local Bus** SCSI FD/HD Controller	$285.00
Future Domain 1670 16-bit SCSI Floppy/Hard Disk Adapter Kit	$157.00
Always IN-2000 16-bit SCSI Host Adapter (Novell Certified)	$189.00
ADAPTEC AHA-1522BK SCSI Adapter Kit	$157.00
ADAPTEC AHA-1542BK SCSI Bus Master Host Adapter Kit	$240.00
ADAPTEC AHA-1542CK SCSI Bus Master Host Adapter Kit	$260.00
ADAPTEC AHA-1542CK-Plus SCSI Bus Master Host Adapter Kit	$323.00
ADAPTEC AHA-1742AK **EISA** SCSI Bus Master Adapter Kit	$350.00
ADAPTEC AHA-1742AK **EISA** SCSI Bus Master Adapter Kit	$415.00

MONITORS

Tatung MM-14SAE 14" MonoVGA Monitor (1024x768)	$129.00
AcerView 11 14" VGA Monitor (640x480,.39dp)	$219.00
AcerView 33D 14" SuperVGA Color Monitor (1024x768,.28dp)	$273.00
AcerView 34T 14" Non-Interlaced Monitor (1024x768,.28dp)	$303.00
AcerView 35 14" SuperVGA Monitor (1024x768,.26dp)	$455.00
AcerView 56L 15" Digital Multi-Frequency Color Monitor (.28dp)	$460.00
AcerView 76i 17" Digital Multi-Frequency Color Monitor (.28dp)	$880.00
CTX5439A 14" SuperVGA Color Monitor (1024x768,.39dp)	$230.00
CTX5468A 14" SuperVGA (TriScan) Color Monitor (1024x768,.28dp)	$266.00
CTX5468NI 14" Non-Interlaced Color Monitor (1024x768,.28dp)	$290.00
CTX1461 14" Non-Interlaced Color Monitor (1024x768, 72Hz refresh)	$315.00
CTX1560 15" Digital Non-Interlaced Color Monitor (1024x768,.28dp)	$430.00
CTX1760 17" Digital Flat-Screen Color Monitor (1280x1024,.28dp)	$780.00
DigiView HR-1401 14" SuperVGA Color Monitor (1024x768,.39dp)	$212.00
DigiView HR-1428 14" SuperVGA Color Monitor (1024x768,.28dp)	$252.00
DigiView HR-1430ni 14" Non-Interlaced Monitor (1024x768,.28dp)	$275.00
Infiniti IN8339SV 14" SuperVGA Color Monitor (1024x768,.39dp)	$225.00
Infiniti IN8828SV 14" SuperVGA Color Monitor (1024x768,.28dp)	$258.00
Infiniti IN8828N4 14" Non-Interlaced Color Monitor (1280x1024,.28dp)	$300.00
Hitachi CM1584 15" Non-Interlaced Monitor (.28dp)	$454.00
MAG 1564 15" Color Monitor (1280x1024,.28dp)	$440.00
MAG MX-15H 15" Color Monitor (1280x1024,.28dp)	$550.00
MAG MX-17H 17" Color Monitor (1280x1024,.28dp)	$985.00
NEC 3FGe 15" Multi-Frequency Color Monitor (1024x768,.28dp)	$625.00
NEC 4FGe 15" Multi-Frequency Color Monitor (1024x768,.28dp)	$740.00
NEC 5FGe 17" Multi-Freuqency Color Monitor (1024x768,.28dp)	$1125.00
NEC MultiSync 5FG 21" Color Monitor (1280x1024,.28dp)	$1320.00
NEC MultiSync 6FG 21" Color Monitor (1280x1024,.28dp)	$2350.00
Optiquest 800S 14" VGA Color Monitor (640x480,.39dp)	$227.00
Optiquest 900S 14" SuperVGA Color Monitor (1024x768,.28dp)	$283.00
Optiquest 1000S 14" Non-Interlaced Color Monitor (1024x768,.28dp)	$308.00
Optiquest 1500D 14" Digital Non-Interlaced Monitor (1024x768,.28dp)	$371.00
Optiquest 2000DX 15" Digital Multi-Freq Monitor (1280x1024,.28dp)	$445.00
Optiquest 4000DX 17" Digital Multi-Freq Color Monitor (1024x768,.31dp)	$679.00
Optiquest 4000D 17" Digital Multi-Freq Color Monitor (1280x1024,.28dp)	$862.00
Sony CPD-1320 14" Non-Interlaced Monitor (640x480,.25dp)	$357.00
Sony CPD-1430 14" MultiScan Monitor (Non-Interlaced,.25dp)	$597.00
Sony CPD-1730 17" MultiScan Monitor (Non-Interlaced,.25dp)	$1043.00
Sony CPD-2036S 20" MultiScan Monitor (non-Interlaced,.30dp)	$1995.00
ViewSonic 4E 14" SuperVGA Color Monitor (1024x768,.28dp)	$294.00
ViewSonic 6 14" Non-Interlaced Color Monitor (1024x768,.28dp)	$330.00
ViewSonic 6E 14" Non-Interlaced Color Monitor (1024x768,.28dp)	$318.00
Viewsonic 5E 14" Non-Interlaced Color Monitor (1024x768,72Hz refresh)	$380.00
ViewSonic 6FS 15" Digital Multi-Frequency Color Monitor	$515.00
ViewSonic 7 17" Digital Multi-Frequency Color Monitor (.28dp)	$883.00
ViewSonic 8 20" Digital Multi-Frequency Color Monitor (.31dp)	$1557.00
ViewSonic 15 15" Digital Multi-Freq Color Monitor (.28dp,76Hz refresh)	$550.00
ViewSonic 17 17" Digital Multi-Freq Color Monitor (.28dp,1600x1280)	$1048.00
ViewSonic 20 20" Digital Multi-Freq Color Monitor (.28dp,1600x1280)	$1711.00
ViewSonic 21 21" Digital Multi-Freq Color Monitor (.28dp,1600x1280)	$1893.00

**** Please call for Hitachi, Mitsubishi, Radius, Seiko & SuperMac Monitors prices*

FLOPPY & HARD DRIVES

TEAC 1.2MB FDD (5.25")	$54.00
TEAC 1.44MB FDD (3.5") w/Mounting Kit	$46.00
TEAC 2-in-1 1.2/1.44MB FDD	$124.00
TEAC 2.88MB FDD (3.5") w/Mounting Kit	$87.00
Mitsumi 1.2MB FDD (5.25")	$52.00
Mitsumi 1.44MB FDD (3.5") w/Mounting Kit	$46.00
IOmega Floptical Drive w/SCSI Interface (21MB)	$440.00
IOmega Floptical Disk (21MB)	$27.00
Sysgen ValueStor Floptical Drive w/Kit	$332.00
Sysgen ValueStor Floptical Disk - Dual pak	$52.00
Conner CP-3000 40MB IDE HDD (28ms)	$141.00
Conner CP-30084E 85MB IDE HDD (17ms)	$178.00
Conner CP-30104 120MB IDE HDD (17ms)	$188.00
Conner CP-30174 170MB IDE HDD (17ms)	$214.00
Conner CP-30204 212MB IDE HDD (12ms,256K cache buffer)	$255.00
Conner CP-30254 250MB IDE HDD (14ms,64K cache buffer)	$281.00
Conner CP-30544 520MB IDE HDD (12ms,256K cache buffer)	$755.00
Conner CP-30080E 85MB SCSI HDD (17ms)	$198.00
Conner CP-30200 212MB SCSI-2 HDD	$327.00
Conner CP-30540 545MB Fast SCSI-2 HDD (12ms,256K cache buffer)	$860.00
Conner CP-385A SFT*STOR 85MB IDE Package	$244.00
Conner CP-3170A SFT*STOR 170MB IDE Package	$321.00

*Conner SFT*STOR Subsystem is pre-loaded with Windows 3.1, DOS 5.0, MS Works, Central Point Anti-Virus, also delivered with "co-resident host adapter and automated installation software.*

Fujitsu M2624T 520MB IDE HDD (12ms, 5yr warranty)	$725.00
Fujitsu M2624FA 520MB SCSI HDD (12ms, 5 yr warranty)	$735.00
Fujitsu M2266SA 1.2GB SCSI HDD (12ms, 5yr warranty)	$1100.00
Fujitsu M2694SA 1.2GB SCSI HDD (10.5ms,3.5",5yr warranty)	$1135.00
Fujitsu M2652S 2.0GB SCSI HDD (12ms, 5yr warranty)	$2050.00
Fujitsu M2654S 2.4GB SCSI HDD (12ms, 5yr warranty)	$2310.00
Maxtor MX-7131A 131MB IDE HDD (15ms)	$205.00
Maxtor MX-7120S 120MB SCSI HDD (15ms)	$220.00
Maxtor MX-7170A 170MB IDE HDD (15ms)	$235.00
Maxtor MX-7213A 213MB IDE HDD (15ms)	$235.00
Maxtor MX-7213S 213MB SCSI HDD (15ms)	$282.00
Maxtor MX-7245A 245MB IDE HDD (14ms)	$254.00
Maxtor MX-7245S 245MB SCSI HDD (14ms)	$310.00
Maxtor MX-7345A 345MB IDE HDD (14ms)	$329.00
Maxtor MX-7345S 345MB SCIS HDD (14ms)	$420.00
Maxtor MX-540SL 540MB SCSI HDD (8.5ms)	$880.00
Maxtor MXT-1240S 1.2GB SCSI HDD (8.5ms)	$1305.00
Maxtor PO-12 1.2GB SCSI HDD (13ms)	$982.00
Maxtor P1-17S 1.7GB SCSI HDD (13ms)	$1284.00
Quantum ProDrive ELS 85MB IDE HDD (17ms, 2yr warranty)	$189.00
Quantum ProDrive ELS127MB IDE HDD (17ms, 2yr warranty)	$225.00
Quantum ProDrive ELS 170MB IDE HDD (17ms, 2yr warranty)	$238.00
Quantum ProDrive LP 240MB IDE HDD (15ms, 256K Cache)	$326.00
Quantum ProDrive ELS 85MB SCSI HDD	$194.00
Quantum ProDrive ELS 127MB SCSI HDD	$227.00
Quantum ProDrive ELS 170MB SCSI HDD	$243.00
Quantum ProDrive LP 240MB SCSI HDD	$331.00
Quantum ProDrive 525MB SCSI HDD	$867.00
Quantum ProDrive 700MB SCSI HDD	$1100.00
Quantum ProDrive 1225MB (1.2GB) SCSI HDD	$1336.00
Toshiba MK-438FB 877MB SCSI-2 HDD (12.5ms)	$909.00
Toshiba MK-538FB 1.2GB SCSI-2 HDD (12.5ms)	$1049.00
Western Digital AC2200 209MB IDE HDD (13ms)	$232.00
Western Digital AC2250 250MB IDE HDD (13ms)	$275.00
Western Digital AC2340 340MB IDE HDD (13ms)	$335.00
Western Digital AC2420 420MB IDE HDD (13ms0	$480.00

**** Please call for Micropolis, Seagate, & Toshiba Hard Disk Drives prices*

SyQuest SQ555 44MB SCSI Removable Disk Drive	$290.00
SyQuest SQ5110 88MB SCSI Removable Disk Drive	$335.00
SyQuest SQ3105 105MB IDE Removable Disk Drive (3.5")	$485.00
SyQuest SQ400 44MB Cartridge	$75.00
SyQuest SQ800 88MB Cartridge	$108.00
SyQuest SQ310 105MB 3.5" Cartridge	$90.00
SyQuest SQ01 SCSI Adapter w/Software	$45.00
SyQuest External Kit	$95.00
Summit SE-120 120MB Tape Backup w/PC Tool Backup Software	$150.00
Summit SE-250 250MB Tape Backup w/PC Tool Backup Software	$205.00
Summit SE-305 305MB IDE Tape Backup w/SummitSafe Software	$260.00
Archive 9250i 250MB Tape Backup w/One Pre-formatted Cartridge	$175.00
Hi-Lite (Archive) California-250 250MB Tape Backup	$189.00
Hi-Hite (Archive) California 525 525MB SCSI Tape Backup	$525.00
Colorado Memory System JT-10 120MB **Parallel Port** Tape Backup	$305.00
Colorado Memory System JT-20 250MB **Parallel Port** Tape Backup	$418.00
Colorado Memory System DJ-10 120MB Tape Backup	$156.00
Colorado Memory System DJ-20 250MB Tape Backup	$209.00
Colorado Memory System AB-11 External Adapter Kit	$35.00
Colorado Memory System KE-09 External Drive Kit	$75.00
Colorado Memory System FC-10 500Kb/s-1Mb/s Adapter Kit	$85.00
Colorado Memory System TC-15 Data Compression Adapter Kit	$185.00
3M DC2120 120/250MB Mini Data Cartridge	$20.00
Sony QD2120 120/250MB Mini Data Cartridge	$18.00
Maxell DC-2120 120/250MB Mini Data Cartridge	$18.00

CHASSIS (CASES)

CS-B01 Baby AT Case w/200W P.S. (3x5.25",1x3.5")	$51.00
CS-20 Baby AT Case w/200W UL P.S. (3x5.25",1x3.5")	$83.00
CS-35 Mid Vertical Case w/230W UL P.S. (3x5.25",3x3.5",Digital)	$92.00
CS-36 Full Vertical Case w/230W UL P.S. (6x5.25",2HD,Digital)	$122.00
CS-300GTS Full Vertical Case w/300W UL P.S. (7x5.25", Double fan)	$175.00
CS-510 Baby AT Case w/200W P.S. (3x5.25",1x3.5")	$62.00
CS-740 Mini Vertical Case w/230W P.S. (2x5.25",3x3.5",Door,Digital)	$69.00
CS-760 Mid Vertical Case w/230W P.S. (3x5.25",3x3.5",Door,Digital)	$86.00
CS-780 Full Vertical Case w/230W UL P.S. (4x5.25",2HD,Door,Digital)	$119.00
CS-931A Mini Vertical Case w/200W P.S. (2x5.25",3x3.5",Digital)	$54.00
CS-931B Mini Vertical Case w/230W P.S. (2x5.25",3x3.5",Digital)	$56.00
CS-932A Mini Vertical Case w/200W P.S. (2x5.25",3x3.5")	$52.00
CS-932B Mini Vertical Case w/230W P.S. (2x5.25",3x3.5")	$54.00
CS-923 Mid Vertical Case w/230W P.S. (3x5.25",3x3.5",Digital)	$74.00
CS-912 Full Vertical Case w/230W UL P.S. (4x5.25",2HD,Digital)	$111.00
Diamond Series: (Black color model available +$3.00)	
CS-130 Full Vertical Case w/250W UL P.S. (4x5.25",2HD,Digital)	$126.00
CS-230 Mid Vertical Case w/250W UL P.S. (4x5.25",2HD,Digital)	$110.00
CS-330 Mini Vertical Case w/220W UL P.S. (2x5.25",3x3.5",Digital)	$81.00
CS-530 Desktop Case w/250W UL P.S. (2x5.25",2x3.5",2HD,Digital)	$86.00
CS-730 Baby AT Case w/220W UL P.S. (2x5.25",1x3.5,1HD,Digital)	$81.00
CS-830 Slim Line Case w/220W UL P.S. (1x5.25",1x3.5",1HD,Digital)	$81.00
2nd Fan for Diamond Series cases (CS-130,CS-230,CS-530)	*$10.00*

PRINTERS

Canon BJ-10ex Bubble Jet Printer	$247.00
Canon BJ-200 Bubble Jet Printer	$330.00
Canon BJ-230 Bubble Jet Printer (Wide)	$408.00
Canon BJ-300 Bubble Jet Printer	$333.00
Canon BJC-800 Color Bubble Jet Printer	$1533.00
Canon BJC-820 Color Bubble Jet Printer (Wide)	$1647.00
Citizen PN-48 Notebook Printer (Professional)	$245.00
Citizen GSX-190 Printer (9pin/color option)	$159.00
Citizen GSX-230 Quiet Printer (24pin/270cps/color option)	$235.00
Citizen GSX-240 Quiet Printer (24pin/300cps/80col/color option)	$290.00
Citizen GSX-145 Printer (24pin/192cps/132col/color option)	$355.00
**** Color Kit for Citizen 200GX, GSX-230 or GSX-240*	*+43.00*
Epson Action Printer 2250 (9pin)	$120.00
Epson Action Printer 3250 (24pin)	$179.00
Epson FX-870 Printer (9pin)	$273.00
Epson FX-1170 Printer (9pin, Wide)	$363.00
Epson LQ-570+ Printer (24pin)	$246.00
Epson LQ-870 Printer (24pin)	$452.00
Epson LQ-1070 Printer (24pin, Wide)	$363.00
Epson LQ-1170 Printer (24pin, Wide)	$619.00
Epson LQ-2550 Printer (24pin, Wide)	$912.00
Epson Action Laser 1500 (1MB,6ppm)	$676.00
Epson EPL-8000 Laser Printer	$881.00
NEC SilentWriter Model 95 w/2MB Postscript Printer (6ppm)	$1395.00
NEC SilentWriter Model 97 w/2MB Postscript Printer (10ppm)	$1745.00
Panasonic KX-P1123 Printer (24pin/220cps/80col)	$182.00
Panasonic KX-P2023 Quiet Printer (24pin/240cps/80col)	$197.00
Panasonic KX-P2180 Quiet Printer (9pin/240cps/80col/color option)	$166.00
Panasonic KX-P2123 Quiet Printer (24pin/240cps/80col/color option)	$234.00
Panasonic KX-P2124 Quiet Printer (24pin/320cps/80col/color option)	$314.00
Panasonic KX-P2624 Quiet Printer (24pin/300cps/132col)	$378.00
**** Color Kit for Panasonic KX-P2180, KX-P2123 or KX-P2124*	*+45.00*
Panasonic KX-P4410 Laser Printer (5ppm/512K/300dpi)	$609.00
Panasonic KX-P4430 Laser Printer (5ppm/1MB/300dpi)	$689.00
Okidata ML320	$307.00
Okidata ML321	$430.00
Okidata OL400P LED Page Printer	$557.00
Okidata OL810 LED Page Printer	$920.00
Okidata OL830 Plus LED Page Printer	$1105.00
Okidata OL850 LED Postscript Printer	$1227.00
Star NX-1001 Multi-Font Printer (9pin/180cps/80col)	$138.00
Star NX-2430 Multi-Font Printer (14pin/240cps/80col)	$227.00
Star NX-2420R Rainbow Color Priner (24pin/250cps/80col)	$286.00
Star LS-5 Laser Printer (5ppm/512K/600x300dpi/15 scalable typefaces)	$636.00
Star LS-5EX Laser Printer (5ppm/1MB/600x300dpi/23 scalable typefaces)	$800.00
Star LS-5TT Laser Printer (5ppm/2MB/600x300dpi/58 scalable typefaces)	$1057.00

KEYBOARDS

BTC 5339SX 101keys Keyboard	$25.00
Chicony KB-5181 101keys Keyboard	$38.00
Chicony KB-5311 101keys Keyboard	$25.00
Focus-2001 101keys Keyboard w/Hard Dustcover (Click)	$42.00
Focus-6000 101keys Keyboard (Soft click)	$36.00
Focus-8000 111keys Keyboard (Calculator, Soft click)	$45.00
Focus-9000 128keys Keyboard (Programmable, Click)	$65.00
Fuiitsu-4700 101keys Keyboard	$47.00
Fujitsu-4870 101keys Keyboard	$37.00
Honeywell-101WN 101keys Keyboard (3yr. warranty)	$40.00
Keytronic EO-5000 101keys Keyboard	$35.00
KT-2000 101keys Keyboard (Keytronic made)	$40.00
Kanrich M-102 102 keys Keyboard	$24.00
MaxSwitch 101 keys Keyboard	$36.00
MaxiSwitch 124keys Programmable Keyboard	$63.00

Honeywell 3-button Serial Mouse	$42.00
Logitech Dexxa Mouse	$24.00
Logitech Bus MouseMan	$70.00
Logitech PS-2/Serial Combo MouseMan	$68.00
Logitech Trackman II (Serial)	$79.00
Logitech Trackman Portable	$100.00
Logitech Cordless Mouse	$88.00
Logitech ScanMan 256 w/OCR software	$255.00
MicroSoft Serial Mouse	$78.00
MicroSoft Bus Mouse	$88.00
MicroSoft BallPoint Mouse for Notebook computer (PS/2 Version)	$110.00
MicroSoft BallPoint Mouse for Notebook computer (Serial/PS-2 Version)	$115.00
Hayes Optima External 9600 Data Modem	$335.00
Hayes Optima External 9600 Data/Fax Modem	$348.00
Hayes Optima External 14400 Data Modem	$355.00
Hayes Optima External 14400 Data/Fax Modem	$378.00
Intel SatisFAXtion model 100 Internal Fax Modem	$105.00
Intel SatisFAXtion model 200 Internal Fax Modem	$305.00
Intel SatisFAXtion model 400 Internal Fax Modem	$395.00
Intel SatisFAXtion modem 400 External Fax Modem	$405.00
U.S. Robotics Sportster 9600PC Internal Data Modem	$207.00
U.S. Robotics Sportster 9600 External Modem	$213.00
U.S. Robotics Sportster 14400PC Internal Data Modem	$196.00
U.S. Robotics Sportster 14400 External Data Modem	$219.00
U.S. Robotics Sportster 14400/9600 Internal Data/Fax Modem	$219.00
U.S. Robotics Sportster 14400/9600 External Data/Fax Modem	$245.00
Zoltrix 2400i Internal 2400Baud Data Modem	$30.00
Zoltrix Standard Internal 9600SR/2400 Send/Receive Fax/Data Modem	$53.00
Zoltrix Standard Internal 9600SR/2400 Send/Receive Fax/Data Modem -w/BitFax for Windows	$54.00
Zoltrix Enhanced Internal 9600SR/2400 Send/Receive Fax/Data Modem - with Hardware MNP5 & V.42bis	$90.00
Zoltrix Pocket 9600SR/2400 Send/Receive Fax/Data Modem	$99.00
Zoltrix 14400/14400bps Internal V.32/V.42bis/MNP5 Data/Fax Modem	$165.00
Zoltrix 14400/14400bps External V.32/V.42bis/MNP5 Data/Fax Modem	$195.00
Aceex 9600bps Internal V.32/V.42bis/MNP5 Data Modem	$140.00
Aceex 9600bps External V.32/V.42bis/MNP5 Data Modem	$165.00
Accex 14400/14400SR Internal Data/Fax Modem	$165.00
Aceex 14400/14400SR External Data/Fax Modem	$195.00
Intel 387SX Math Coprocessor	$85.00
Intel 387DX Math Coprocessor	$90.00

Order Hot Line: 714/546-3110 ◇ Fax Order Line: 714/546-3803

ViewSonic® NOVELL intel NEC ORCHID SyQuest

Quality You Can Count On!!!

BOLD

DATA TECHNOLOGY, INC.
Computer Systems
Components
Peripherals

BDT-486SX-33 MHz

$1,109

- BDT Basic Package
- BDT 486SX-33 Motherboard
- BDT 486SX-33 CPU on board
- AMI Bois
- Baby AT DeskTop or Mini Tower Case With 230W Power Supply

BDT-486SX-25Mhz

$1,059

- BDT Basic Package
- BDT 486SX-25 MotherBoard
- Intel 486SX-25 CPU on Board
- AMI Bois
- Baby AT DeskTop or Mini Tower Case With 230W Power Supply

BDT-486DX-33Mhz

$1,289

- BDT Basic Package
- BDT 486DX-33 MotherBoard
- Intel 486DX-33 CPU on Board
- 64K Write Back Cache
- AMI Bois
- Mini or Medium Tower Case With 230W Power Supply

BDT-486DX-50Mhz

$1,439

- BDT Basic Package
- BDT 486DX-50 MotherBoard
- Intel CPU on Board
- 256K Write Back Cache
- AMI Bois
- Tower Case With 250W Power Supply

All Basic Systems Include:

- 4MB of 70ns RAM
- 1.2 and 1.44 Floppy Disk Drive
- 80MB IDE Hard Disk Drive
- 2 FDD and 2 HDD 1:1 IDE Controller
- 2 Serial, 1 Parallel and 1 Game Port
- VGA Card with 512K on Board
- 14" VGA Monitor
- 101 Key Enhanced KeyBoard

Upgrade Options:

– 14" Super VGA Monitor with 1MB SVGA Card	+$195
– 14" Super VGA Monitor with Window Accelerator Card	+$250
– 120MB IDE Hard Disk Drive	+$60
– 200MB IDE Hard Disk Drive	+$240

BOLD DATA TECHNOLOGY

The Intel Logo is a Registered Trademark of Intel Corporation

920 Auburn Ct.
Fremont, CA 94538
Tel: (510) 490-8296
Fax: (510) 490-9428

13200 Brooks Dr. Suite H
Baldwin Park, CA 91706
Tel: (818) 338-2878
Fax: (818) 338-1178

Continued from page 87

THE 7TH GUEST

Designed By: Graeme Devine and Rob Landeros; Trilobyte Software

Published By: Virgin Games

For: MS-DOS (requires at least MPC Level 1 compatibility: 386DX CPU, 2MB RAM, 16-bit SVGA card with 512K VRAM, CD-ROM drive with at least 150 kps transfer rate, MSCDEX driver v. 2.2 or higher, MS-DOS v. 5.0 or higher)

List Price: $79.95

"This is the new standard in multimedia entertainment. This is the future."
—Bill Gates, Chairman of Microsoft.

Graphics and Animation: 9
Sound: 9
User Interface: 9
Overall Value: 9

Marketroids dream of such a rare and wonderful box-cover endorsement from William Gates himself. Microsoft has long dreamed of a CD-ROM title that would be compelling enough to overcome diehard customer resistance to CD-ROM technology. The 7th Guest from Virgin Games might be the one. Virgin Games? Yes, it's the same logo as Virgin Airlines and Virgin Records; rather British, slightly eccentric but definitely smart money.

The 7th Guest is an Interactive Drama (a term trademarked by Virgin) set in a haunted house. The spaces are darkly lit, richly textured and exquisitely rendered in 3D geometry. The characters are video overlays of live, professional actors, broadly overacting. The user interface is a simple and elegant set of animated cursors that give you direct visual feedback as you feel your way through the environment with the mouse. A beckoning skeletal hand, for example, means that you are over an entrance to another part of the house, while a throbbing brain means that you have found a puzzle that must be solved before you can advance. Some of the puzzles are extremely challenging, but there is a book of clues lying on a coffee table in the Library.

Anyone who truly loves games will be drawn into The 7th Guest by an irresistable force. Anyone who loves the haunted house genre of adventure games, or movies, will be in hog heaven.

Continued on page 102

•••NOTICE•••
ACP's 56th GIANT
COMPUTER
SWAP MEET
Sunday
JULY 25th, 8-2
Orange County's Original!
FREE Admission and Parking
100's of Sellers 'n Deals
in the Huge Parking Lot
Advanced Computer Products, Inc.
ACP
SUPER★STORE
Since 1976
1310 E. Edinger
Santa Ana • 714-558-8813
Some Dealer Space Still Available...Call Mary

CLEARANCE SALE!
286-16MHz SYSTEM
$449 ONLY $559 (W/Color Monitor)
• 2MB RAM
• 1.2 Or 1.44MB FDD
• 40MB HDD
• VGA
• One Parallel
• Two Serial
• 101 Enhanced Keyboard
• Mouse
• VGA Monochrome Monitor

SPECIAL: *VESA LOCAL BUS SYSTEM*
•4MB RAM Up To 32MB
•1.2MB & 1.44MB FDD
•125MB Hard Drive
•SVGA Monitor (0.28 DPI)
•Mini Tower Case
•Keyboard & Mouse
• VESA Local Bus 1M SVGA 32 Bit Card
486DX-33MHz $1269
486DX-50MHz $1499
486DX2-66MHz $1529
486DX2-50MHz $1429

486DLC-33MHz
• CYRIX 486DLC-33MHz CPU w/Math Co-Processor
• 4MB RAM
• 1.2 & 1.44MB FDD
• 130MB HDD
• SVGA Card w/1MB
• SVGA-Monitor (0.28dpi) (1024x768)
• AT I/O Card
• Mini Tower Case
• 101 Enhanced Keyboard
$959
486DX-33 (Intel) . $1159
486DX-50MHz $1269

386DX-40MHz
• 80386DX-33MHz CPU
• 4MB RAM
• 1.2 & 1.44MB FDD
• 125MB HDD
• SVGA Card w/1MB
• SVGA Monitor
• AT I/O Card
• Mini Tower Case
• 101 Enhanced Keyboard
$899
386SX-33MHz w/2MB RAM $799

MEMORY
SIM 256-08ns $9.90
SIM 256-07ns $10.50
SIM 256-06ns .... CALL
SIM 1M-08ns .... CALL
SIM 1M-07ns .... CALL
SIM 4M-08ns .... CALL
SIM 4M-07ns .... CALL

HARD DISK DRIVE
20MB HDD $95
40MB HDD $129
80MB HDD $159
125MB HDD $179
213MB HDD $245

MONITOR
SVGA (0.28dpi) $237
SVGA (0.39dpi) $205
VGA (0.42dpi) $199
Monochrome $89

ADD-ON CARD
SVGA w/1MB $59
VGA w/512K $39
VGA w/256K $27
IDE CONTROLLER
AT I/O $13
Modem $43
Fax/Modem $49

FINANCING AVAILABLE!
A & P Computers
16717 Norwalk Blvd. • Cerritos, CA • 90701
TEL (310) 921-7156
FAX (310) 802-9218
Prices subject to change without notice

ASEAN COMPUTER TECHNOLOGIES
INCORPORATED

• 971 FAIRWAY DRIVE • WALNUT, CALIFORNIA 91789 •

MADE IN U.S.A.

ORCHID

80486 VESA LOCAL BUS vega

- 8K INTERNAL CACHE,
- 256K EXTERNAL CACHE
- ORCHID VESA 486 SUPERBOARD
- ORCHID FAHRENHEIT 1280 ACCELERATOR CARD (S3 CHIP)
- VESA LOCAL BUS INTERFACE, 1280X1024
- IDE INTERFACE & AT I/O
- 4MB RAM (EXP. TO 32MB)
- MEDIUM TOWER CASE W/230W P.S.
- TEAC 1.2 & 1.44 FLOPPY DRIVES
- KEYTRONIC KT2001 101 ENHANCED K/B
- 125MB IDE HD (15 MS)

MADE IN U.S.A.

ORCHID

NEW!! VEGA WITH PENTIUM SOCKET ZERO INSERTION FORCE (ZIF)

$1350	486DX-33LB	$1300
$1500	486DX-50LB	$1450
$1600	486DX2-66LB	$1550

ACTi EISA-VESA LB 486DX SYSTEMS
Unleash the power "EISA" 32Bit System

- HIGH PERFORMANCE 32BIT IDE ADAPTER "DTC 2290" SUPPORTS 4 HD & 4 FDD
- ORCHID PROIIS-EISA 32BIT SVGA CARD

The ProDesigner IIs/EISA operates in the EISA Bus taking advantage of its advanced circuitry and high speed design to deliver optimum performance and compatibility in various configurations.

- 4MB RAM
- 256K CACHE MEMORY
- TEAC 1.2MB & 1.44MB FLOPPY DRIVES
- AT I/O (2SER/PAR/GAME)
- 101 ENHANCED KEYBOARD
- 125MB IDE HARD DRIVE

EISA VESA LB 486DX-33MHZ	$1450
EISA VESA LB 486DX2-50/DX-50MHZ	$1560/$1600
EISA VESA LB 486DX2-66MHZ	$1700

ONE YEAR PARTS AND LABOR WARRANTY ON ALL SYSTEMS

WHOLESALE $$ TO THE PUBLIC

ASEAN HIGH PERFORMANCE SYSTEMS ARE PRE-TESTED A MINIMUM OF 72 HRS TO ENSURE MAXIMUM QUALITY AND RELIABILITY

GOVERNMENT & UNIVERSITY PO'S & CORPORATE ACCTS. WELCOME

486DX UPGRADE SPECIALS

ADDITIONAL 4MB	call
170/210MB HDD IDE	add $50/100

* SPECIAL * SPECIAL * SPECIAL * SPECIAL *

245MB/340MB IDE UPGRADE	call

14"	EDISON .28mm (1024x763) SVGA (I)	add $230
14"	EDISON .28mm (1024x768) SVGA (NI) Low Rad	add $260
14"	CTX5468 .28mm (1024x768) I/NI	add $260/290
14"	CTX1461 .28 (1024x768) NI 72Hz Refresh	$310
14"	VIEWSONIC 6E .28mm NI (1024x768)/V5E	add $330/395
15"	ARCUS 1568 .28mm NI (1280x1024)	add $400
15"	CTX1560 .28 (1024x768) NI DIGITAL	$310
15"	NEC 3FG/4FG .28mm NI (1024x768)	add $625/750
15"	MAG 15H .28mm (1280x1024)	$560
17"	VIEWSONIC 7/MAG 17H .28mm NI (1280x1024)	add $950/1030
20"	ADDONICS .31mm NI (1280X1024)	add $1200

ISA 486 UPGRADE SPECIALS

PVGA Graphics Accelerator W.D.Chipset Paradise comp.	add $60
Diamond Stealth S3 Accelerator 24x	add $100
Orchid Pro-Designer IIS Hi-Color	add $95
Orchid Fahrenheit 1280 Accelerator	add $110
ISA IDE Caching Ctrl w/512K Promise	add $99

ORDER HOTLINE
SALES: (909) 598 2828
FAX: (909) 598 5748

CYRIX 486DLC-33 SYSTEM

- 4MB RAM
- 128K CACHE
- 1.2MBMB FDD
- 1.44MB FDD
- 2SER/PAR/GAME
- 101 K/B
- 125MB HDD
- 1MB VGA CARD
- SVGA MONITOR
- MATH CO-PROCESSOR INCLUDED

ONLY $1050

GENESIS 80486VLB SYSTEM VESA - LOCAL BUS

- 256K CACHE
- VLB 32BIT SVGA BOARD CIRRUS LOGIC 1280X1024 1MB (EXP 2MB) ACCELERATOR
- IDE & AT I/O (2SER/PAR/GAME)
- 4MB RAM (EXP. TO 32MB)
- MEDIUM TOWER CASE W/230W P.S.
- TEAC 1.2 & 1.44 FLOPPY DRIVES
- KEYTRONIC KT2001 101 ENHANCED K/B
- 125MB IDE (15 MS) HARD DRIVE

VESA UPGRADE OPTIONS

ATI VLB MACH 32 W/2MB VRAM ACCELERATOR CARD, 16 MILL. COLORS	ADD $280
VLB INTEGRATED IDE + I/O(2S/P/G)	ADD $46
ORCHID FAHRENHEIT ACCELERATOR W/1MB	ADD$80
ORCHID P9000 ACCELERATOR W/3MB	ADD $290

VESA LB 486DX-33	$1050
VESA LB 486DX2-50/DX-50	$1160/1200
VESA LB 486DX2-66	$1300

ASEAN ISA 486DX SYSTEMS

- 4MB RAM
- 256K CACHE MEMORY
- TEAC 1.2MB FLOPPY DRIVE
- TEAC 1.44MB FLOPPY DRIVE
- AT I/O (2SER/PAR/GAME)
- 101 ENHANCED KEYBOARD
- 1MB SVGA CARD
- 125MB IDE HARD DRIVE (15 MS)

SPECIAL 1428SVN NON-INTERLACE MONITOR

486DX-33MHz INTEL	$1170
486DX2-50MHz INTEL	$1270
486DX-50MHz INTEL	$1320
486DX2-66MHz INTEL	$1420

ACTi 286, 386SX & 386DX & 486SX SYSTEM

- 1.2MB FLOPPY DRIVE
- 1.44MB FLOPPY DRIVE
- AT I/O (2SER/PAR/GAME)
- MINI TOWER/DESKTOP W/ P.S.
- 16BIT SVGA W/512K
- 1:1 H/F CONTROLLER
- 14" SVGA MONITOR (1024X768) HI-RES
- 101 ENH. KEYBOARD

HARD DISK	386SX-33MHz w/2MB RAM	386DX-25MHz w/64K CACHE w/4MB RAM	386DX-33MHz w/128K CACHE w/4MB RAM	386DX-40MHz w/128K CACHE w/4MB RAM	486SX-25MHz w/4MB RAM	MB MADE BY IBM 486SLC-2 (50MHz) w/4MB RAM w/MATH-CO
85MB	$700	$770	$820	$820	$900	$1020
120MB	$730	$800	$850	$850	$930	$1050
170MB	$760	$830	SPECIAL $870	SPECIAL $870	SPECIAL $950	$1080

INTEL, MICROSOFT, DIAMOND, ORCHID, SOUNDBLASTER PRO ARE ALL TRADEMARKS OF THEIR RESPECTIVE COMPANIES.

ASEAN COMPUTER TECHNOLOGIES
INCORPORATED

FAX: (909) 598 5748
ORDER HOTLINE
(909) 598 2828
TECH SUPPORT:
(909) 598 5498

• 971 FAIRWAY DRIVE • WALNUT, CALIFORNIA 91789 •

PC "WEEK" EDITORS CHOICE
SPOTLIGHT MAG 15H MONITOR

MICROPROCESSOR BASED, DIGITALLY CONTROLLED MONITOR - 15" MAG 15H:

- Autosizing, Auto-synchronizing
- Intelligent mode switching
- .28mm, 1280x1024 , Non-Interlaced
- Vertical refresh up to 120 Hz
- 100 MHz video bandwidth
- Flat Square Technology picture tube

MAG 15" special $535 (Qty limited)

17" MAG 17H only $945

MONTHLY *IDE* HD SPECIALS

MAXTOR 7213A IDE HDD • 210MB, 15ms Seek time	$210
MAXTOR 7245A IDE HDD • 245MB, 13ms Seek time	$238
CONNER 30104H, IDE HDD • 120MB, 17ms Seek time	$160
CONNER 30174E, IDE HDD • 170MB, 15ms Seek time	$185
CONNER 3544 IDE HDD • 540MB, 12ms Seek time	$658
W. DIGITAL CAVIAR 2200 IDE HDD • 210MB, 15ms Seek time	$203
W. DIGITAL CAVIAR 2250 IDE HDD • 245MB, 15ms Seek time	$240
W. DIGITAL CAVIAR 2340 IDE HDD • 340MB, 15ms Seek time (3 yrs. warranty)	$300

AFFORDABLE BIG SCREEN

17" Mitac MTC731 (VESA) .31mm, 1024x768 (NI) $588

MONTHLY *SCSI* HD SPECIALS

MAXTOR 7345S SCSI HDD, 345MB, 12ms	$370
MAXTOR PO-12S SCSI-2 HDD, 1.2GB, 12ms • Novell Approved	$988
CONNER 30540 SCSI-2 HDD, 540MB, 12ms	$680
FUJITSU 2624FA SCSI HDD, 520MB, 11ms • 5yr. warranty	$720

HAYES 2400B ext. modems w/s.w....... $60

US Robotics Sportster
(S144Ext.) 14400, V.42bis $190

CASES W/P.S.

Enhance Desktop w/230W p.s.	$55
6.5"x16.75"x17.25"	
Black Enhance Desktop w/200W p.s. & dig. disp.	$70
Mini Tower w/200W (special) w/230 p.s.	$45/48
13"x16"x7.25"	
Mini Tower w/230W p.s. & dig. display	$50
Black Mini Tower w/230W p.s. & dig. display	$65
Med. Tower w/230W p.s. & dig. display	$70
6.5"x16.75"x17.25"	
Full Tower w/250W p.s. & dig. display	$95
24.5"x17"x7.5"	
Full Tower w/250W p.s. & dig. disp. w/2 fans	$105
Black Full Tower w/250W p.s. & dig. display	$125
Slim Line Case w/220W p.s.	$75
Super Tower (File Server)	$185
2 fans + 10 bays w/300W p.s. w/wheels	

VIDEO DISPLAY CARDS

ACTi 16bit w/256K 800x600	$28
Tseng Lab ET4000 w/1MB	$72
AVGA-3 1MB Graphics Accelerator	$60
TVGA-9000 VGA Card	$38
w/Trident 9000 Chipset, 512K	
TVGA-8900C SuperVGA Card	$49
w/Trident 8900C Chipset	
PVGA Graphics Accelerator w/1MB	$95
w/Hi-Color Chip (WD chipset) Paradise compatib.	
ATi Ultra Plus (1280x1024, 2MB Dram)	call
ATi Ultra Pro (1280x1024)	$370
1280x1024 Non-Interlaced, 2MB VRam	
EISA ATi Ultra Pro (1280x1024)	$550
1280x1024 Non-Interlaced, 2MB VRam	
Diamond SpeedStar-24X 1MB	$165
VGA Card (16 mil. colors)	
Diamond Stealth 1MB (24x)	$165
Windows Accelerator	
Orchid Pro IIS 1MB VGA Card	$140
w/Sierra RAMDAC	
Orchid Pro IIS-E 1MB EISA VGA Card	$165
w/Sierra RAMDAC	
Orchid Fahrenheit Windows Accelerator	$150
24Bit, 16.7 mil. colors w/1MB	
Orchid Fahrenheit VA Windows Accelerator w/1MB	$180
w/Voice Annotation 24Bit, 16.7 mil. colors 1280x1024, Audio capabilities	
Mono Graphic w/Printer port	$15
VESA LB VIDEO CARDS - see under VLB M/B	

MISCELLANEOUS & CD ROMS

Colorado Tape Back-up 120MB	$150
Colorado Tape Back-up 250MB	$195
Jumbo Tracker JT10 120MB	$320
Colorado parallel port Tape Back-up	
Jumbo Tracker JT20 250MB	$415
Colorado parallel port Tape Back-up	
External Drive Kit KE-09 (no adapter)	$80
Tape Drive Adapter AB-11 (for ext.)	$40
FC-10 500Kb/s-1Mb/s Adapter Kit	$90
TC-15 Data Compression Adapter Kit	$189
Tape Back-up Cartridge 120/250MB	$20/22
2400 int/w/MNP	$35
9600/2400 Fax/Modem w/MNP7	$45
14 400 Modem int w/v.32/v.42 w/Fax	$180
U.S. Robotics Sportster Modems	
9600PC Internal Data Modem	$175
9600 External Data Modem	$185
14400PC Internal Data Modem	$185
14400 External Data Modem	$195
14400/9600 Internal Data/Fax Modem	$215
14400/9600 IExternal Data/Fax Modem	$240

MOTHERBOARDS

286-12Mhz (4 M exp.)	$50
286-16Mhz/286-20Mhz (4M exp.)	$70/78
386-SX25/SX33/SX40Mhz	$85/90/95
386-DX25 w/o CPU; w/CPU OPTI	$90/140
386-33 128K cache w/o CPU; w/CPU OPTI	$90/150
386-40 128K cache w/o CPU; w/CPU OPTI	$95/150
386-40 128K cache w/o CPU; w/CPU PC	$90/145
486SX-25 0K cache w/CPU	$165
486SX-25 64K cache w/o CPU; w/CPU	$95/188
486DX-33MHz 128K cache w/o CPU	$110
486DX2-50MHz 128K cache w/o CPU	call
486DX-50MHz 128K cache w/o CPU	call
486DX2-66MHz 128K cache w/o CPU	call
VESA Local Bus M/B w/o CPU:	
Orchid 486DX-33 VLB w/256K Cache	call
Orchid 486DX-50 VLB w/256K Cache	call
Orchid 486DX2-66 VLB w/256K Cache	call
VEGA 486DX-33MHz VLB 256 cache MADE IN USA	call
VEGA 486DX-50MHz VLB 256 cache MADE IN USA	call
VEGA 486DX2-66MHz VLB 256 cache MADE IN USA	call
OPTi 486DX-33 VLB w/256K Cache	call
OPTi 486DX-50 VLB w/256K Cache	call
OPTI 486DX2-66 VLB w/256K Cache	call
HINT 486DX-33MHz EISA VLB 256 cache	call
HINT 486DX2-66MHz EISA VLB 256 cache	call
New 386/486 upgradeble VLB M/B 256K cache	call
takes 386DX CPU / 486 CPU's	
VESA Local Bus Video Cards & Controllers:	
ATI VLB Mach 32 accelerator w/2MB VRAM	$375
Cirrus Logic VLB accelerator w/1MB (exp. 2MB)	$90
Cirrus Logic VLB accelerator w/1MB (exp. 2MB)	$118
w/built in 32bit Super IDE + I/O ctrl.	
Diamond SpeedStar Pro VLB acceler. w/1MB	$130
Diamond Stealth 24 VLB w/1MB	$165
Diamond Stealth Pro VLB w/1MB	$250
Diamond Viper VLB accelerator w/2MB VRAM	$370
Orchid Fahrenheit VLB Win acceler. w/1MB	$175
Orchid Celsius VLB accelerator w/1MB	$235
Orchid P9000 VLB accel. (Weitek Chip) w/3MB	$350
VESA LB IDE ctrl. w/Multi I/O (2H/2F, 2s,p,g)	$38
Tekram DC-680 VLB IDE Cache Ctrl. (exp. 16MB)	$155
UltraStor 34F VLB SCSI Ctrl. (Bus Master)	$275

H/F CONTROLLERS

MFM /RLL AT 1:1 H/F Ctrl	$40/60
IDE 1:1 2H/2F Ctrl (Qty 20+ $8)	$15
Super IDE 2H/2F w/AT I/O (Qty 20+ $15)	$22
IDE 1:1 2H/4F Ctrl I-40	$35
IDE 1:1 2H/2F Ctrl w/ROM (for Networks)	$45
Promise DC99M ISA IDE Ctrl	$110
w/512K Cache (8.5MB exp.)	
LongShine (LCS) ISA IDE Ctrl (16MB exp.)	$165
(UNIX/ZENIX/Novell Drivers +CAD) 4H,2F Super Fast	
LCS EISA IDE Ctrl w/1MB Cache (16MB exp.)	call
DTC 2290 EISA IDE Ctrl 4HD/4FD, 8MB/sec	$120
DTC 3290AS EISA to SCSI Cache Ctrl.	$395
ASPI comp., Host adapter, (4MB exp.)	
DTC 3292 EISA SCSI Ctrl (non-cache).	$330
ADAPTEC SCSI 1522/1522K	$100/140
ADAPTEC SCSI 1542CK/1542CK+	$240/310
ADAPTEC SCSI 1742K EISA Bus Master	$395
SCSI ADAPTEC OEM H/F Ctrl w/kit	$125
Adaptec 1522K compatible	
UltraStor 15C IDE Caching FD/HD Ctrl. w/0MB	$195
UltraStor 14F SCSI FD/HD Ctrl.	$220
UltraStor 24F EISA SCSI FD/HD Ctrl.	$350
UltraStor 34F VESA Local Bus SCSI FD/HD Ctrl.	$275
VESA LB Super IDE ctrl. w/I/O (2H/2F, 2s,p,g)	$38
Tekram DC-680 VLB IDE Ctrl. (exp. 16MB)	$155

I/O CARDS

AT I/O (2S/P/G) (Qty 20+ $8.50)	$13
High Speed AT I/O (Qty 20+ $32)	$38
(16C550 comp., 2 serial/1 parallel ports)	
Printer card/Game card	$9/9

KEYBOARDS

BTC 101 Enhance 5339	$25
Lite-On 101	$35
Keytronic 101 KT2000 (USA)	$45
Fujitsu 4700 101	$45
Focus 2001 w/Dust Cover	$35
F8000 111 Keys w/Calculator (soft)	$45
Focus 9000 128 Keys w/Calculator	$58
BLACK ACTi 101 Enh. k/b	$42
BLACK Focus 2001 101 Enh. k/b	$40

MONITORS
Authorized Viewsonic Dealer

12" Mono Monitor (Amber)	$78
14" Mono Monitor (Amber or P.W.)	$92
14" Mono VGA (P.W.)	$105
14" CTX5468/Arcus SVGA (.28mm 1024x768)	$255
14" Black Arcus SVGA (.28mm)	$275
14" CTX 5468 N/Arcus 1448 SVGA Multisync	$289
Non-Interlace (.28mm 1024x768)	
14" CTX 1461 (.28mm 1024x768) 72Hz NI	$305
14" Black Arcus NI (.28) 1024x768 Multisync	$300
14" Edison 1439 /Sunshine 7A SVGA	$195
(.39mm 1024x768)	
14" Edison 1428 /Sunshine 7 SVGA	$230
(.28mm 1024x768)	
14" Edison 1428 /Sunshine 8 SVGA	$260
Non-Interlace (.28mm 1024x768)	
14" Viewsonic 4E	$290
Multiscan (.28mm 1024x768)	
14" Viewsonic 5E	call
Non-Interlace (.28mm 1024x768) 72Hz Refresh	
14" Viewsonic 6E	$315
Non-Interlace (.28mm 1024x768)	
15" MAG MX-15H (.28mm 1280x1024)	$535
15" Viewsonic 6FS Multi Freq. F/S	call
(.28mm 1280x1024) 72Hz, Low Radiation	
17" MAG MX-17H	$965
17" Viewsonic 7 Multi Freq. F/S	call
"Top-Rated" (.28 1280x1024) Low Radiation	
17" Mitac MTC731	$600
Non-Interlace (.31mm 1024x768)	
15" NEC 4FG/ 17" NEC 5FG	$765/call
(.28 mm multiple frequency)	
NEW! Viewsonic 15" / 17" / 20"	call
(.28mm 1280x1024) 76Hz Refresh	
20" Addonics Ultra 1280 Multi Frequency	
(.31mm 1280x1024)	SPECIAL $1300

PRINTERS

Star NX-1001 Multi-Font (9pin/180cps/80col.)	$138
Panasonic KX-P2023 (24pin/240cps/80col.)	$195
Panasonic KX-P2180 (9pin/240cps/color option)	$165
Panasonic KX-P2123 (24pin/240cps/color opt.)	$235
Panasonic KX-P2124 (24pin/320cps/color opt.)	$308
Panasonic KX-P2624 (24pin/300cps/132col.)	$378
Color Kit for KX-P2180, KX-P2123, KX-P2124	$45
Panasonic KX-P4410 Laser (5ppm/300dpi/512K)	$588

MATH-CO PROCESSORS

ULSI 387SX-25/33	$60/62
ULSI 387DX-33/DX40	$65/72
Intel 387XL-20/25/33 DX	$80

CD ROM & ACCESSORIES

Mitsumi CRMC Int. CD ROM w/Interface	$188
SONY CDU-31A Int. CD ROM w/Interface	$220
SONY CDU-541 Int. SCSI CD-ROM	$430
NEC CD 74 Ext. SCSI/84 Int. SCSI (280ms)	$620/540
Toshiba CD 340 1B Internal SCSI CD-ROM	$450
Toshiba CD 340 1B Int. SCSI CD-ROM w/Interf.	$495
Fully integrated Audio, Double-speed, MPC compliant, Multi-Session Kodak Photo CD compliant, SCSI-2	
Creative Lab Sound Blaster Pro Deluxe	$140
Creative Lab Sound Blaster 16 ASP	$240
Media Vison Pro Audio Spectrum 16 Sound Card	$170
Media Vision Pro Audio Studio 16 Sound Card	$230
2"x3" Full Range Speakers	$10
Amplified Speakers w/3Band Equalizer	$28
Self Power Speakers w/adapter 25W	$65
Stereo Speakers w/adaptor 80W	$100

MICE & TRACKBALLS

Kinko Hi-res Mouse(Serial) CP3	$15
Truemouse TX/AX 300 (Serial) w/mouse pad	$20
Truedox Trackball TR300	$35
Logitech Dexxa Mouse	$22
Logitech MouseMan	$66
Logitech TrackMan II (Serial)	$78
Logitech TrackMan Portable	$105
Genius Portable Trackman	call
Microsoft Mouse Serial/Bus	$65/75
BLACK F2 (Serial) Hi-res Mouse	$25

HARD DISKS/FLOPPY DRIVES

CONNER 3000 40MB IDE (28ms)	$130
CONNER 30084 80MB IDE (19ms)	$150
CONNER 30104 120MB IDE (19ms)	$170
CONNER 30174 170MB IDE (17ms)	$190
CONNER 30204 210MB IDE (15ms)	$210
CONNER 3200S 210MB SCSI (16ms)	call
CONNER 30254 251MB IDE (14ms)	call
CONNER 540MB IDE (12ms)	$675
CONNER 30540 540MB SCSI (12ms)	$685
FUJITSU 2624T 513MB IDE (10ms) 5 yr. warr.	call
FUJITSU 2624FA 513MB SCSI (12ms) 5 yr. warr.	call
FUJITSU M2266SA 1.2GB SCSI (14ms) 5 yr. warr.	call
FUJITSU M2652SA 2.0GB SCSI (11ms) 5 yr. warr.	call
MAXTOR 7120A 120MB IDE (15ms)	$175
MAXTOR 7120S 120MB SCSI (15ms)	$210
MAXTOR 7213A 210MB IDE (15ms)	$210
MAXTOR 213S 213MB SCSI (15ms)	$260
MAXTOR 7245A 245MB IDE (14ms)	$240
MAXTOR 340S 337MB SCSI (13ms)	$370
MAXTOR 340A 340MB IDE (13ms)	$310
MAXTOR 534A 535MB IDE (13ms)	call
MAXTOR PO-12 1.2GB SCSI (12ms)	$990
QUANTUM ELS127 120MB IDE (15ms)	call
QUANTUM Q24A012 240MB IDE (13ms)	call
WESTERN DIG 280 84MB IDE (18ms)	$160
WESTERN DIG 2120 125MB IDE (16ms)	$180
WESTERN DIG 2200 210MB IDE (15ms)	$210
WESTERN DIG 2250 250MB IDE (13ms)	$250
WESTERN DIG 340MB IDE (12ms)	$315
SEAGATE 351A 42MB IDE (28ms)	$110
SEAGATE 3144A 127MB IDE (16ms)	call
SEAGATE 3283A 240MB IDE (13ms)	call
Epson 1.2/1.44MB	$48/43
Samsung 1.2/1.44MB	$45/40
Teac 1.2/1.44 (Black available call)	$50/45
1.44 with kit add	$3
FD505 Teac 2 in 1 1.2+1.44MB FDD	$138
Toshiba 2.88MB FDD	$78
(Floppy Ctrl must be 2.88 compatible)	

Minimum order $300 or Qty 10+. Call for Dealer Qty Discounts and other products (Printers, RAM, P.S.) prices.

TERMS: 1year warranty on parts & labor. Printers & monitors warranty thru manufacturer. All sales on CHIPS,MONITORS & PRINTERS are final. NO REFUND! All returns are subjected to our approval & must have prior authorization. Return items must be in good condition & in its original packing shipped prepaid & insured. All refunds or credits are less freight & bank charges. All refund items must be returned within 14 days of invoice. There will be a restocking charge of 20% after the 7 days period & within 30 days of invoice. Not responsible for any typographical errors. Price & availability subject to change without any notice. Prices are COD cash/cashiers chk.

Let Micro Maxi Provide Solutions for All Your Computer Needs.

486DX2-66

- 256K Cache
- 4MB RAM
- 1.2MB FD
- 1.44 MB FD
- 200 MB HD
- IDE Controller
- 2S/1P/1 G Port
- SVGA w/1M
- 1024x768 SVGA 14" Monitor
- 101 Keyboard
- HR Mouse

~~$1539~~

$1,489

486DX2-50

- 256K Cache
- 2MB RAM
- 1.2MB FD
- 1.44 MB FD
- 130 MB HD
- IDE Controller
- 2S/1P/1 G Port
- SVGA w/1M
- 1024x768 SVGA 14" Monitor
- 101 Keyboard
- HR Mouse

~~$1348~~

$1,298

486DX-33

VESA Local Bus

- 256K Cache
- 4MB RAM
- 1.2MB FD
- 1.44 MB FD
- 130 MB HD
- IDE Controller
- 2S/1P/1 G Port
- SVGA w/1M
- SVGA 14" Monitor
- 101 Keyboard
- HR Mouse

~~$1339~~

$1,289

486SX-25

- 4MB RAM
- 1.2MB FD
- 1.44 MB FD
- 130 MB HD
- IDE Controller
- 2S/1P/1 G Port
- SVGA w/1M
- 1024x768 SVGA 14" Monitor
- 101 Keyboard
- HR Mouse

~~$959~~

$909

386SX-33

- 2MB RAM
- 1.2MB FD
- 1.44 MB FD
- 85 MB HD
- IDE Controller
- 2S/1P/1 G Port
- SVGA Monitor
- 101 Keyboard
- HR Mouse

~~$728~~

$678

386DX-40

- 64K Cache
- 1MB RAM
- 1.2MB FD
- 1.44 MB FD
- 40 MB HD
- IDE Controller
- 2S/1P/1 G Port
- SVGA Card
- 1024x768 SVGA 14" Monitor
- HR Mouse

~~$739~~

$689

Hot 486!

486-33DX System

- 64K Cache
- 2MB RAM
- 1.2MB FD & 1.44 MB FD
- 85 MB Hard Drive
- IDE Controller
- 2S/1P/1 G Port
- SVGA Card
- SVGA Monitor
- 101 Keyboard

~~$1039~~

$989

Hot 386!

386DX-33 System

- 64K Cache
- 2MB RAM
- 1.2MB & 1.44 MB FD
- 85 MB HD
- 1024x768 SVGA Monitor
- IDE Controller
- 2S/1P/1 G Port
- SVGA Card w/1M
- 101 Keyboard

~~$789~~

$739

Network System Novell Netware v3.11-5 User

FileServer	Work Station
486 File Server	386 Work Station
80486DX-33Mhz	80386SX-25MHz
256K Cache	1MB RAM
8MB RAM	1.2 & 1.44 FD
1.2MB FD	14" SVGA Monitor
210 MB Hard Drive	Mini Tower Case
IDE Controller	200W Power Supply
12" Mono Monitor	101 Keyboard
Middle Tower Case	
230 W Power Supply	
101 Keyboard	

FileServer+2 Work Stations	$3888
FileServer+3 Work Stations	$4588
FileServer+4 Work Stations	$5288
FileServer+5 Work Stations	$5888

Traveler's Angel PalmBook/PalmTop

V30HL (8086) CPU	81 Key
80x25 Black & White LCD	AA Battery x2, Lithium Battery x1
640x200 Resolution	10.21" (W) x 4.8" (L) 1.04" (H)
CGA Emulation w/16 Gray Scale	1.3 lbs. (Including Batteries)
7.63"x3" Viewing Area	

1M to 2 M	add $35
1M to 4M	add $98
1M to 8M	add $218
Mouse	$15
Modem	$35
Fax Modem	$60
1.44M TEAC FD	$50
1.2M TEAC FD	$50
Mono w/MGP	$95
SVGA 1024 x 768	$248
40M/80M	$138/$178
130/170M	$208/$228
200M	$280
340M	$400
SVGA 14"	$250
SVGA 14" NI	$280

We Will Beat Any Published Price!! • Excellent Service & Technical Support • Delivery Available.

Computer Super Support

MicroMaxi Technology, Inc.

1224 Santa Anita Ave. #A & C, S. El Monte, CA 91733

Prices subject to change without notice.

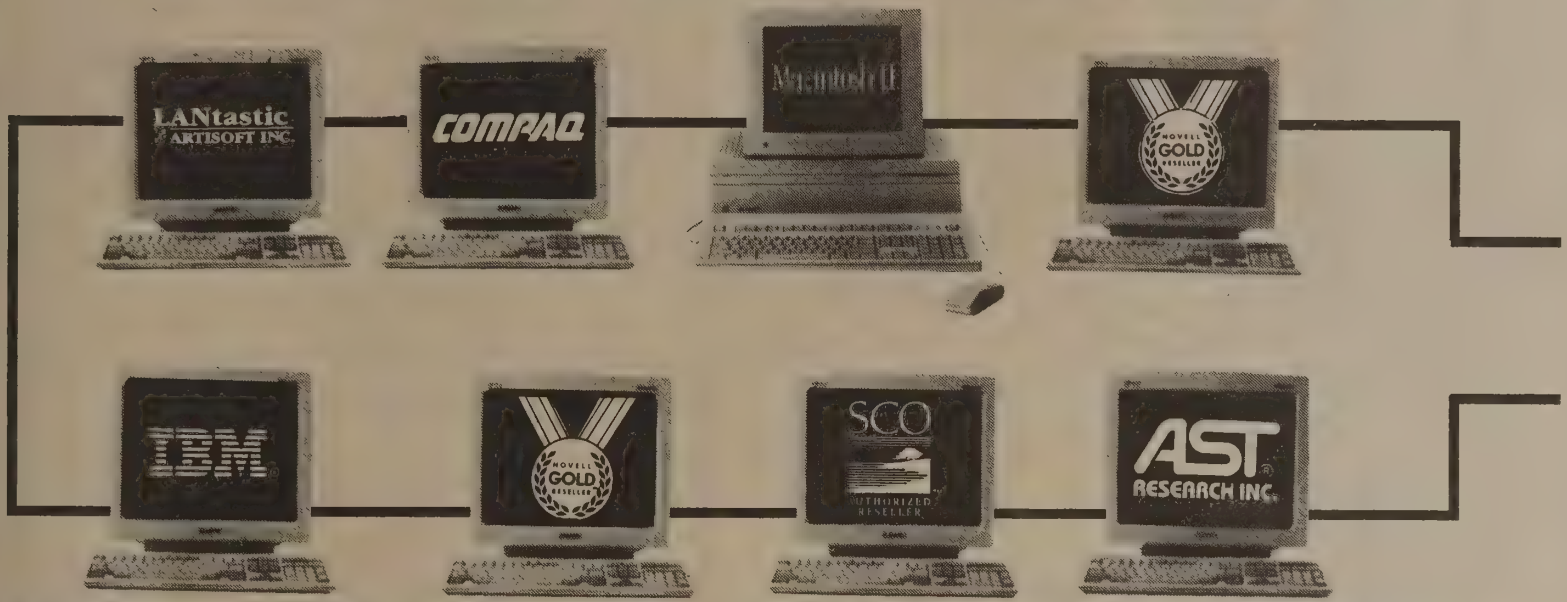
Hot Line: (800) 600-MAXI

• 7 Day Service •

Mon.-Fri.: 9-5 & Sat.-Sun.: 10-4

ALL PRICES REFLECT A CASH DISCOUNT

AT UQM WE NETWORK YOU WITH THE BEST.


LANtastic
ARTISOFT INC.
COMPAQ
Macintosh II
NOVELL GOLD RESELLER
IBM
NOVELL GOLD RESELLER
SCO
AUTHORIZED RESELLER
AST
RESEARCH INC.

We're *authorized* to provide our customers with proven reliability and support!

★ Name Brand Authorized Dealer ★

AST Manhatten Server • LANtastic • Apple Macintosh • IBM
Novell • Compaq • SCO UNIX

NEW!
•EN-4200
VESA Local Bus
•Ethernet Adapter

Novell
Enterprise
CNE

- Affordability
- Custom Configuration
- 4-8 Hours On-Site/Off-Site Service
- Maintenance Contracts
- Company Leasing Plans
- System Repair & Upgrade

NOVELL GOLD RESELLER

ARTISOFT

AUTHORIZED DEALER

LAN PROFESSIONAL

- ISA and EISA Ethernet
- Pocket Ethernet Adapter
- 8 or 12 Port Concentrator
- ProteonToken Ring
- Token Ring MAU
- 8/16 Bit ARCNET

SPECIAL DEALER PRICING!

• Prices subject to change w/out notice •

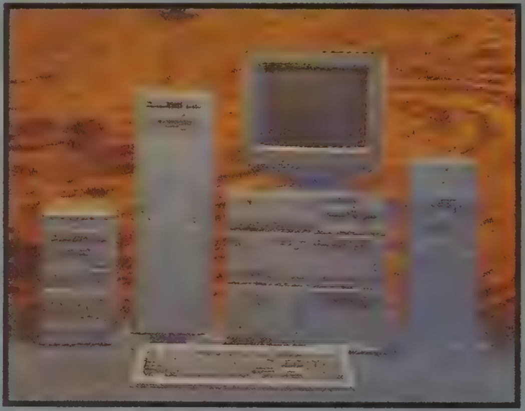
UQM COMPUTER

22395 S. Western Ave. Ste. 304 Torrance, CA 90501
(310) 782-1422 FAX (310) 782-1533

HOURS:
Mon-Fri 9:30-6:30
Sat 1:00-5:00

SALES HOTLINE!
1-800-300-1422

COMPAQ CTX EPSON HEWLETT PACKARD IBM



You've been waiting for the speed and the advantages of a local bus system. But you didn't want to get caught in a nightmare with a proprietary local bus design Speed, colors and flicker free performance is what you can expect and afford from the New Tech VLB series computer. VESA local bus design allowing you to eliminate your bottle neck problems within prior systems.

We only give you
VESA Local Standard Bus

128K Cache
4MB RAM
1.2MB & 1.44MB Floppy Drives
245MB 15ms Hard Drive
32 Bit VESA Local-Bus Graphic Accelerator w/1MB RAM
32 Bit VESA Local-Bus IDE Controller
14" Super VGA Color Monitor (Non Interlaced)
2 Serial / 1 Parallel / 1 Game Ports
Enhanced 101 Keyboard
Hi-Res Mouse

[illegible] **$1425**/$52 mo.*
[illegible] **$1595**/$59 mo.*
[illegible] **$1645**/$62 mo.*

Optional 32-bit Diamond Stealth or the Orchid Fahrenheit both 32-bit VESA Local Bus Graphics Cards and 32-bit IDE or SCSI Cache Controllers are available.

4MB RAM **50/66MHz 486DX2**
1.2MB & 1.44MB Drive
245MB 15ms Hard Drive
16-bit SuperVGA w/1MB
SuperVGA Color Monitor
2 Serial/1 Parallel/1 Game
Enhanced 101 Keyboard
Hi-Res Mouse
$1475/$1545
$42/$47/mo*

4MB RAM **33/50MHz 486DX**
1.2MB & 1.44MB Drive
245MB 15ms Hard Drive
16-bit SuperVGA w/1MB
SuperVGA Color Monitor
2 Serial/1 Parallel/1 Game
Enhanced 101 Keyboard
Hi-Res Mouse
$1345/$1495
$47/$53/mo.*

4MB RAM **33MHz 486DLC**
1.2MB & 1.44MB Drive
175MB 19ms Hard Drive
16-bit SuperVGA
SuperVGA Color Monitor
2 Serial/1 Parallel/1 Game
Enhanced 101 Keyboard
Hi-Res Mouse
$1125
$34/mo.*

4MB RAM **25MHz 486SX**
1.2MB & 1.44MB Drive
200MB 15ms Hard Drive
16-bit SuperVGA w/1MB
SuperVGA Color Monitor
2 Serial/1 Parallel/1 Game
Enhanced 101 Keyboard
Hi-Res Mouse
$1045
$38/mo.*

4MB RAM **40MHz 386DX**
1.2MB & 1.44MB Drive
125MB 19ms Hard Drive
16-bit SuperVGA
SuperVGA Color Monitor
2 Serial/1 Parallel/1 Game
Enhanced 101 Keyboard
Hi-Res Mouse
$945
$27/mo.*

NEW TECHNOLOGIES

Pasadena 461 North Lake Avenue
(818) 356-0391 Telephone or (818) 356-0068 Fax
Rowland Heights 19230 East Colima Road
(818) 965-7004 Telephone or (818) 913-6936 Fax
Santa Ana 630 South Grand Avenue
(714) 542-1800 Telephone or (714) 542-2182 Fax
Santa Fe Springs 11861 East Telegraph Road
(310) 948-2060 Telephone or (310) 942-0440 Fax

NEW TECHNOLOGIES
1 Year Warranty

TERMS AND CONDITIONS:

-CORPORATE, GOVERNMENT AND SCHOOL PO'S WELCOME
-VISA OR MASTERCARD WELCOME, NO SURCHARGE
-COD ORDERS ACCEPTED
-CALIFORNIA SHIPPING ADDRESS MUST ADD APPROPRIATE TAX
-RETURNS MUST HAVE RMA
-PRICES SUBJECT TO CHANGE WITHOUT NOTICE
-ALL SALES FINAL
RETURNS GIVEN STORE CREDIT ONLY
*SUBJECT TO CREDIT APPROVAL

Authorized Dealer for:

Maxtor® Microsoft NEC OKIDATA® SONY.

NEC Multisync 4FG $695

15" Color Monitor
(1024 x 768, .28dp)
Non-Interlaced

CTX 1561 (Low Radiation) $405

14" Multiscan Color Monitor
(1024 x 768, .28dp, 72MHz Refresh Rate)
Non-Interlaced Flicker-Free performance

CTX

5439 14" 1024 x 768, .39dp	$225
5468 14" 1024 x 768, .28dp	259
5468NI 14" 1024 x 768 non-interlaced, .28dp	289
1461 14" 1024 x 768 non-interlaced, .28dp	319
1460 14" 1024 x 768 non-interlaced, .28dp	345
1560 15" 1024 x 768 non-interlaced, .28dp	455
1760 17" 1280 x 1024 non-interlaced, .31dp	795

NEC

4FG 15" 1024 x 768 non-interlaced, 75MHz, .28dp	$695
5FG 17" 1280 x 1024 non-interlaced, 135MHz, .28dp	1259
6FG 21" 1280 x 1024 non-interlaced, 135MHz, .28dp	2297
3FGE 15" 1024 x 768 non-interlaced, 75MHz, .28dp	617
4FGE 15" 1024 x 768 non-interlaced, 75MHz, .28dp	742
5FGE 17" 1024 x 768 non-interlaced, 76MHz, .28dp	1120

SONY

1304S 14" 1024 x 768 non-interlaced, 57MHz, .25dp	$576
1604S 17" 1024 x 768 non-interlaced, 57MHz, .25dp	895
1730 17" 1024 x 768 non-interlaced, 72Hz, .25dp	1030
2036S 21" 1280 x 1024 non-interlaced, 70Hz, .25dp	1945
2038 20" 1600 x 1200 multiscan, 60Hz, .30dp	2195

Conner or Maxtor

120MB Hard Disk Drive $195

Maxtor or Western Digital $269

245MB Hard Disk Drive, 64K Cache, 15ms

Seagate

40MB, 19ms	$145

Conner

80MB, 19ms	$185
120MB, 16ms	195
175MB, 17ms	235

Maxtor

7130, 130MB, 15ms	$195
7213, 210MB, 15ms	235
7245, 250MB, 12ms	269
345MB, 12ms	365
550MB, 12ms	785

Western Digital

200MB, 15ms	$235
250MB, 12ms	269
340MB, 12ms	365

Fujitsu

550MB, 12ms	$785

Micropolis

1624, 760MB SCSI2, 15ms	$895
1596, 1GB SCSI2, 14ms	1598
1528, 1.3GB SCSI2, 15ms	1645
1908, 1.5GB SCSI2, 14ms	1745
1508, 1.7GB SCSI2, 14ms	1895
1924 2GB SCSI2, 14ms	2295

Hewlett Packard

4L, 300dpi $675

HP Deskjet 1200C

Color Inkjet, 7ppm, 600 x 300dpi

Hewlett Packard $1325

Deskjet Portable, 300dpi, 3ppm	$799		
Deskjet 500, 300dpi, 3ppm	345	Laserjet IIIP, 300dpi, 4ppm	$829
Deskjet 500C, 300dpi, 3ppm	475	Laserjet 4, 600dpi, 8ppm	1329
Deskjet 550C, 300dpi, 3ppm	675	Deskjet 4M, 600dpi, 8ppm	1829
Scanjet IIC (w/interface kit)	1245	Scanjet IIP (w/interface kit)	795

EPSON

LX-810, 9-Pin, 200cps	$169
LQ-570, 24-Pin, 315cps	239
LQ-870, 24-Pin, 413cps	449
LQ-1070, 24-Pin Wide, 315cps	359
LQ-1170, 24-Pin Wide, 413cps	625
FX-870, 24-Pin, 330cps	279
FX-1170, 24-Pin, 330cps	369
EPL 8000, 300dpi, 10ppm	859
Stylus 800 Inkjet, 300cps	379
ES600C Image Scanner (w/Interface Kit)	1125
ES800C Image Scanner (w/Interface Kit)	1395

OKIDATA

OL-400, 300dpi, 4ppm	$559
OL-810, 300dpi, 8ppm	929
OL-830, 300dpi, 8ppm	1169
ML-184, 9-Pin, 300cps	279
ML-320, 9-Pin, 300cps	319
ML-321, 24-Pin, 450cps	439
ML-520, 24-Pin, 450cps	379
ML-521, 24-Pin, 450cps	499
ML-590, 24-Pin, 450cps	449
ML-591, 24-Pin, 450cps	599
ML-393, 24-Pin, 450cps	969

UPGRADE YOUR SYSTEM TO A
VESA LOCAL BUS SYSTEM FOR ONLY

$245

* INCLUDES 32-BIT VESA LOCAL BUS GRAPHICS CARD W/**CIRRUS** LOGIC CHIP SET

VESA LOCAL BUS CONTROLLER CARDS

32-Bit cache controller w/64K cache upgradable to 16MB	$179
Ultrastor 32-Bit SCSI Cache Controller w/64K Cache	295

VESA Local Bus Motherboards

486/33MHz w/CPU	$445
486/50MHz w/CPU	585
486/66MHz w/CPU	685

VESA Local Bus Graphics Cards

32-Bit **Cirrus Logic** w/1MB	$95
32-Bit **Diamond** Stealth w/1MB	189
32-Bit **Orchid** Fahrenheit w/1MB	189
32-Bit **Orchid** Fahrenheit w/1MB (VA)	219
32-Bit **Diamond** Viper w/2MB	459
32-Bit Orchid P9000 w/3MB	[illegible]

Motherboards

386SX/40 w/CPU	$115
386DX/40 w/CPU	159
486SX/33 w/CPU	310
486DX/33 w/CPU	415
486DX/50 w/CPU	545
486DX/66 w/CPU	645

Graphics Cards

Trident w/512K	$39
Trident w/2MB	65

Archive $179

Hi-Lite
250MB Tape Back-up

Colorado 120MB Tape Back-up	$159
Colorado 250MB Tape Back-up	$195

Multimedia

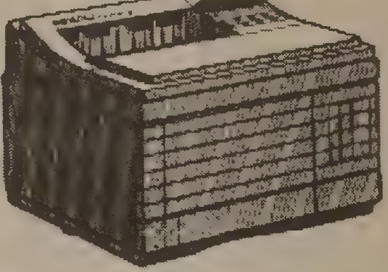
Media Source Bundle
Sony 31A CD ROM
16-Bit Pro Audio Spectrum-16 Sound Card
2-Way Speakers
6 CD Titles: Works for Windows
Mavis Beacon Teaches
World Atlas
US Atlas w/Automap
Reference Library
Secret Weapons of the Luftwaffe

$445

MICRO CITY℠

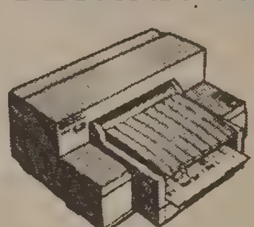
COMPUTER SUPERSTORE

HP LASERJET 4



- 600 dpi print quality at a 300 dpi price
- Resolutuion enhancement technology and microfine toner for superior output quality
- Fast 8-ppm printing for complex documents
- Ideal for Windows environment

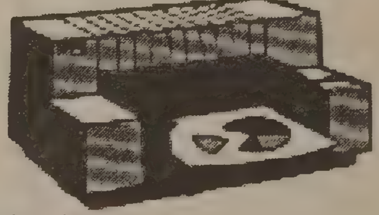
HP DESKJET 550C



- 300 dpi
- Laser quality black and color printing

$675.00

HP DESKWRITER



- Perfect for your Macintosh
- 300 dpi quality
- AppleTalk with DeskWriter

$329.00

HEWLETT PACKARD

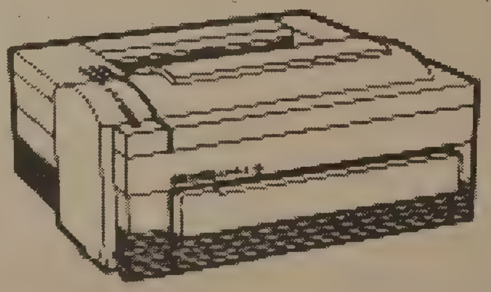
Authorized Dealer

HP DESKJET 1200C

NEW!

- 300dpi -- both in color and b&w
- Up to 6ppm
- 45 scalable typefaces

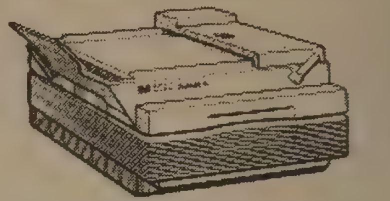
HP LASERJET 4L PRINTER



- Lowest HP LaserJet Printer EVER!
- 300-dpi laser printing
- 26 built-in scalable fonts
- Small 14" by 14.5" footprint fits perfectly on your desk

$679.00

HP IIC SCANNER w/IBM INTERFACE



- 256 Grayscale or 24 bit color
- High 400 dpi resolution
- One-pass scanning
- Automatic exposure selections

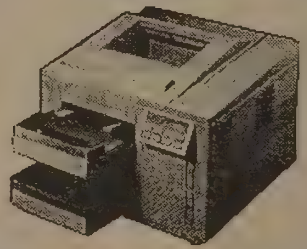
$1249.00

HP IIP SCANNER w/ INTERFACE

- 8 bit Grayscale
- Image editor
- Full page scan

$699.00

HP LASERJET 4si



- 600dpi at a 300dpi speed
- Up to 17ppm
- Incredible affordability

$CALL

All HP advertised prices reflect a 2% cash discount

CERRITOS	SANTA ANA	VAN NUYS	SAN JUAN CAPISTRANO	SAN DIEGO	SAN DIEGO
17707 Valley View Blvd. **(714) 739-0444** Valley View & Artesia M-F 9:00-5:30	1510 S. Lyon St. **(714) 543-4922** Lyon & Edinger M-F 9:00-6:00 SAT 10:00-5:00	6265 Sepulveda Blvd., #15 **(818) 781-0698** Next to Rogersound M-F 9:00-6:00 SAT 10:00-5:00	33959 Doheny Park Rd., #B **(714)489-0226** In Price Club Plaza M-F 9:00-6:00 SAT 10:00-5:00	3365 Rosecrans St., #C **(619) 523-0510** Loma Square M-F 9:00-6:00 SAT 10:00-5:00	9370 Waples St. **(619) 552-9355** Mira Mesa M-F 9:00-6:00 SAT 10:00-5:00
FAX:(714) 739-8291	**FAX:(714) 543-6349**	**FAX:(818) 781-4203**	**FAX:(714)489-0591**	**FAX:(619) 523-0977**	**FAX:(619) 552-9016**

ALL HP PRICES REFLECT A 2% CASH DISCOUNT * ASK ABOUT MICRO CITY'S REVOLVING CREDIT PLAN *

Stock may not be available in some stores --- Master Card, Visa accepted --- Prices good thru July 30th, 1993 --- Prices subject to change without notice

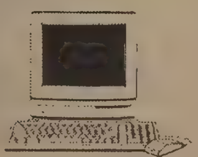
MICRO CITY℠

COMPUTER SUPERSTORE

On-the-spot **rebates.**
On-target **solutions.**

Authorized Dealer

Apple® Macintosh Centris™ 610 4/80



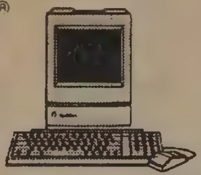
- 68040 processor
- Flexible monitor support
- 20MHz operation
- 4MB of RAM, exp. to 68MB
- 80MB hard drive

NO ETHERNET

$1249.00

AFTER ON-THE-SPOT REBATE

Macintosh® Color Classic® 4/80

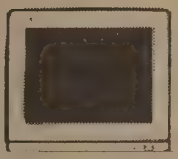


- 16MHz 68030 processor
- 4MB of RAM
- Easily transportable

$1048.00

AFTER ON-THE-SPOT REBATE

Apple Basic Color Monitor

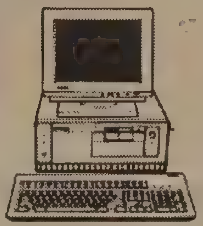


- 14" screen, 640x480
- 39mm dot pitch
- Apple's most affordable Macintosh color display

$299.00

AFTER ON-THE-SPOT REBATE

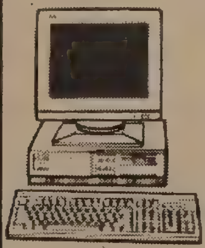
GST 486SX/33MHz



- 4MB RAM
- 120 MB Hard Drive
- 64K Cache Memory
- FDC/HDC IDE Card 1:1
- 1.2M & 1.44M Floppy
- 2 Serial/Parallel ports
- SVGA Monitor w/1MB SVGA Card
- 101 Enhanced Keyboard
- MS DOS 6
- MS Windows 3.1
- Mouse

$1215.00

GST 486DX/33MHz



- 4MB RAM
- 120 MB Hard Drive
- 256K Cache Memory
- FDC/HDC IDE Card 1:1
- 1.2M & 1.44M Floppy Drive
- 2 Serial/Parallel ports
- SVGA Monitor w/1MB SVGA Card
- 101 Enhanced Keyboard
- MS DOS 6
- MS Windows 3.1
- Mouse

$1499.00

LIMITED NUMBER ON HAND

CURTIS COPY CLIPS
$6.99

LABTEC MULTIMEDIA SPEAKERS
$39.00

Creative Labs
SoundblasterPro Deluxe Edition
$149.00

SONY CD ROM Kit
with 3 titles
$399.00

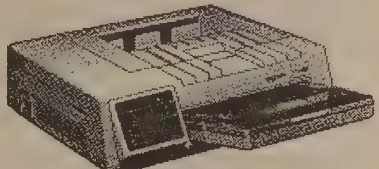
NEW!

EPSON ACTIONNOTE NOTEBOOK COMPUTER

- 486SLC Processor
- Built-in Fax/Modem
- 120MB Hard Drive
- 4 MB RAM
- Comes with Carrying Case & 1 year onsite warranty

$1599.00

OKIDATA OL400 PRINTER

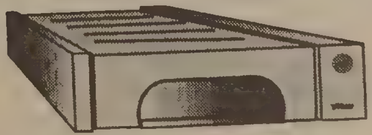


- 17 resident fonts
- 4ppm
- 200 sheet paper tray

$499.00

AFTER $50 REBATE

Removeable Hard Disk Rack



- Truly Portable
- Hard Disk slides easily in and out of loading tray
- Easy to install in any 5 1/4" bay slot

$49.00

NEED A QUOTE, BUT DON'T HAVE TIME TO STOP IN? FAX US YOUR QUESTION AND WE'LL ENTER YOU IN OUR MONTHLY FAX GIVEAWAY DRAWING TO WIN VARIOUS PRIZES!

The Intel Inside Logo is a registered trademark of Intel Corporation
Apple, the Apple logo, and Macintosh are registered trademarks of Apple Computer, Inc. -- Classic is a registered trademark licensed to Apple Computer, Inc.

PRODUCT SPOTLIGHT

Continued from page 93

The package includes two CDs. When used with a conventional audio CD player, the second CD also plays music from the game's sound track. There is also a short "behind-the-scenes" videotape about the making of The 7th Guest. The 42-page user manual includes extensive and detailed troubleshooting information; the thicket of incompatiblities that can prevent these things from working goes far toward explaining diehard customer resistance to CD-ROM technology on the MS-DOS side of town.

A package sticker warns that "This product contains scenes of graphic violence and pure evil which may offend some users."

Yeah, right. And if you play the CD backwards, you can hear Richard Branson and Bill Gates telling kids to worship Satan. (Virgin Games, Inc., 18601 Fitch Ave., Irvine, CA 92714. 714-833-8710; Sales: 1-800-874-4607)

SCANNER HARDWARE REVIEW

READSTATION OCR SYSTEM

Manufactured By: UMAX Technologies
Reviewed By: Michael Robin

The brochure from UMAX describes the ReadStation as "an integrated, standalone optical character recognition device designed to be as easy as a fax machine." At first glance, this statement may read like the common techno-babble extolling the wonders of a new hi-tech machine. But after using the ReadStation for any length of time, this is an excellent description of a machine that offers many advantages for the individual, workgroup, or office that needs an efficient, flexible scanner for text documents.

The ReadStation is an ideal standalone, multi-platform scanner, producing files readable on PC, Macintosh, or UNIX-based computers. Scanned documents are transferred on floppy disk, via the ReadStation's built-in 1.44. 3.5" disk drive. In a law office, for instance, the ReadStation works just as easily for the partners or clerks that won't touch anything but their hot, new 486's as for those dedicated Macintosh users. In its nonvolatile memory, the ReadStation can hold up to six profiles of customized function settings. These profiles can be assigned to individual users, types of documents, as well as applications and computers to be used.

Complementing the standalone capability and built-in floppy drive is resident OCR (Optical Character Recognition) software—Caere Corporation's OmniPage. No longer will you have to go through a multi-step process of scanning a document, launching OCR software, converting a file, and then reading it in your word processor, spreadsheet or database. (And if your work is on a Mac, figuring out how you will get this to someone else's PC.) UMAX proudly claims to "convert text to digital form in any of sixteen popular word processing, spreadsheet, or database formats," and eleven languages, including English, Spanish, French, and German. In addition to ASCII for PC, Mac, and UNIX, these popular formats include dBASE, Excel, GSA Lotus 1-2-3, Navy DIF, Microsoft Word, MultiMate, WordPerfect, WordStar, XyWrite III as well as TIFF for graphic images.

Another nice capability of the ReadStation is that it will read and convert documents you have scanned elsewhere, when you were away from OCR software. It also lets you convert faxes you received via fax modem. Simply save them as TIFF files on a floppy, load the image to be scanned into the ReadStation. Once the file is in memory the ReadStation will convert it to text like any other document. (UMAX Technologies, Inc. 3353 Gateway Blvd., Fremont, CA. 1-800-562-0311)

CAD HARDWARE, SOFTWARE, SERVICE & SUPPLIES

ARTISOFT
NOVELL.
CADVANCE
AUTOCAD®

HEWLETT PACKARD
AUTHORIZED DEALER
GREAT PRICES/EXCELLENT SERVICE
CALL TODAY FOR ALL YOUR
PRINTING & PLOTTING NEEDS
INCLUDING
600dpi COLOR
HP DESIGNJET 650C

SPECIALTIES
- Complete Solutions
- Home or Office
- Notebook Computers
- Cad Hardware & Software Experts
- Complete Drafting Service
- Manual or Cad (Autocad, Cadvance, Microstation)
- Experience in Architectural, Electrical, Mechanical and Plumbing

Lease and Financing Available!
Trademarks belong to their respective owners.

BUSINESS SOLUTION SPECIALISTS

LOGICACHE COMPUTERS, INC.
IBM COMPATIBLE MANUFACTURER/DISTRIBUTOR
SALES & SERVICE — CADD CONSULTING
HOURS: M-F: 9 am to 6 pm • Sat & Sun: By Appt. Only
TEL: (714) 855-1211
FAX: (714) 855-3892
22691 Lambert St.,Ste. 505
El Toro, CA 92630

BUSINESS SOLUTIONS

continued from page 35

from the competition. Printer produces about two pages a minute; the quality is superb, with a resolution of 360 dpi.

The engineering of this machine is a joy to examine. Canon took their standard bubble jet printer mechanism and miniaturized it. The result is virtual laser quality. The actual working of the printer is also fascinating. Bubble jet printers normally have a print head and ink tank in a single unit. For this model, however, Canon has managed to separate these two elements in order to accommodate the limited space. The result is a print head ($43) that lasts for about three thousand pages. The ink tank ($48/six pack), however, lasts for only about sixty pages. The combined cost works out to about 14¢ per copy. While this is a good deal higher than standard bubble jet prints, it is highly sophisticated technology and well worth it when you need to print a few copies and don't have another printer available. But don't forget, there is still a parallel port on the back of the computer and you can easily hook up to any printer you like when one is available.

The computer comes with a NiCd battery pack which should power the computer for between three and four hours and takes about seventy minutes to recharge. The printer takes a good deal of power. Canon claims that the printer will deplete the battery after eight pages, but tests showed the battery to last a good deal longer. Extra NiCd packs ($135) are available as is a slightly more efficient and heavier Nickel Metal Hydride battery pack ($186). As you might suspect, Canon has a very sophisticated power conservation arrangement and in fact supplies three different batteries with the computer. A lithium battery lasts five years and does nothing besides power the clock. Another internal battery keeps things going for up to ten minutes when you change the main battery.

The NoteJet 486 comes with MS-DOS in addition to Windows 3.1 and a marvelous tutorial. When you turn the computer on, for instance, one of the options will be a BubbleJet tutorial. When you click the mouse on that option, you will be led step by step through the installation of the print head and ink tank. You can run the tutorial while you do the installation. Terrific!

There are two carrying cases available. A small one lists for $49 while a deluxe model costs $119. The unit comes with a one year door to door warranty and the documentation is excellent.

This is a first-class machine and makes a wonderful debut for Canon's new class of portable. I find the pricing quite reasonable as these models cost less than it would to buy a comparable computer and portable bubble jet printer. If I were in the market for a laptop, this is currently the one I would be examining. ■

MEMORY • MEMORY • MEMORY • MEMORY • MEMORY • MEMORY

DEC • COMPAQ • CANON • EPSON • DELL • AT&T • AST • APPLE • ALR • ACER

INTERNATIONAL PRODUCTS MANUFACTURER

IPM SYSTEM SINCE 1984

"We Will Beat/Match ANY Advertised Price!"

SUPER LOW PRICE!

COMPUTER PRICE WAR

HAS BEEN LAUNCHED BY

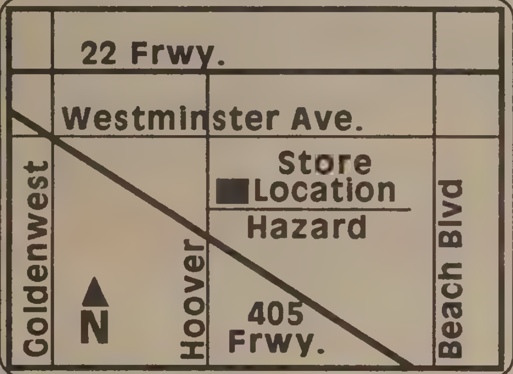
KATRONIC TECHNOLOGY

COMPUTER SALES & SERVICES

WE DELIVER ADVANCED TECHNOLOGY

Excellent Quality • Reliable Service

Competitive Prices



"WE WILL CUSTOMIZE ANY SYSTEM TO MEET YOUR SPECIFICATIONS."

ACCESSORIES

- CD ROM
- Multi-Media Kit
- Sound Blaster Pro
- Hard Disk 80/120/170/240/340
- Colorado Tape 120/250
- Panasonic Printer
- HP Laser
- Fax + Modem
- LAN Card Ethernet

LOW PRICE PLEASE CALL!!

DEPOT REPAIR SPECIALIST

FAST TURNAROUND

- FLOPPY DISK DRIVES FOR MAC/PS2/COMPAQ/TOSHIBA
- All System Power Supplies
- Monitors
- Printers

LOW PRICE! LARGE QUANTITY DISCOUNTS!!

ALL REPAIRS ARE WARRANTED FOR A FULL 90 DAYS

NOTEBOOK SPECIAL

386SX-25 MHz w/2 MB + 80 MB H. Disk **LOWEST PRICE—CALL!**

HARD DRIVES • MODEM
MONITORS • PRINTERS
COLORADO DRIVE
CALL

IPM

AMD 386-40MHz

- Medium Tower Case w/Double Fans
- 230W Power Supply
- MB Cyrix 486-25MHz Or 386-40MHz
- 4MB RAM, 128K Cache
- 5.25" And 3.5" Diskette Drivers
- FDD/HDD Controller + I/O
- 170MB 15ms IDE Hard Drive
- 3 Buttons Mouse
- SVGA 16 Bit w/1MB RAM
- 14" SVGA Monitor .28dp
- 101 Key Maxi Keyboard

AMD 386-40MHz . . . $1099

MEMORY UPGRADE FOR LAPTOP • NOTEBOOK • PALMTOP • IBM PS/2

IPM

486DX-33/50/66MHz

$1439/$1549/$1639

- Medium Tower Case w/Double Fans
- 230W Power Supply
- MB 486DX-33/50/66MHz w/256K Cache
- 4MB RAM
- 5.25" And 3.5" Diskette Drivers
- FDD/HDD Controller + I/O
- 210MB 15ms IDE Hard Drive
- 3 Buttons Mouse
- SVGA 32 Bit w/1MB RAM
- 14" Non-Interlaced SVGA Monitor
- 101 Key Maxi Keyboard
- VESA Local Bus

intel inside

VESA LOCAL BUS

UPGRADE CLONE SYSTEM

Replace The Motherboard + CPU + Memory

XT TO 386SX-33 MHz w/1MB	$139
286 TO 386DX-40 MHz w/1MB	$199
286 TO 486-33 MHz VLB w/1MB	$489

FREE LABOR!

HEWLETT PACKARD • Canon • TOSHIBA • TI • NCR • SUN • AT&T • OKI • EVEREX • EPSON • ZEOS • IBM • ATi • NEC • DELL COMPUTER CORPORATION • RICOH • ZENITH • Microsoft • COMPAQ • Panasonic • PACKARD BELL • SHARP • ALR • OKIDATA • AST

ZENITH • TOSHIBA • TI • TANDON • SUN • SHARP • SAMSUNG • POQET • PANASONIC

KATRONIC COMPANY

(714) 897-3234 or (714) 895-2084

FAX: (714) 897-9853
14382 HOOVER ST., SUITE A9,
WESTMINSTER, CA 92683

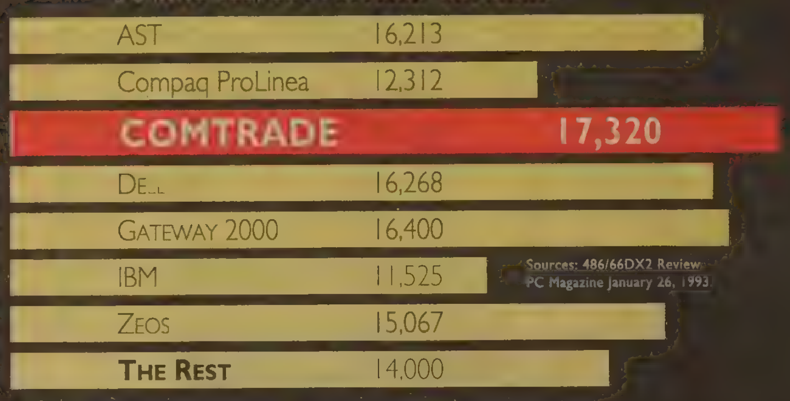
ONE YEAR WARRANTY PARTS & LABOR

MasterCard • VISA

EVEREX • FUJITSU • HP • IBM • NCR • NEC • OKI

Comtrade Zaps The Competition!

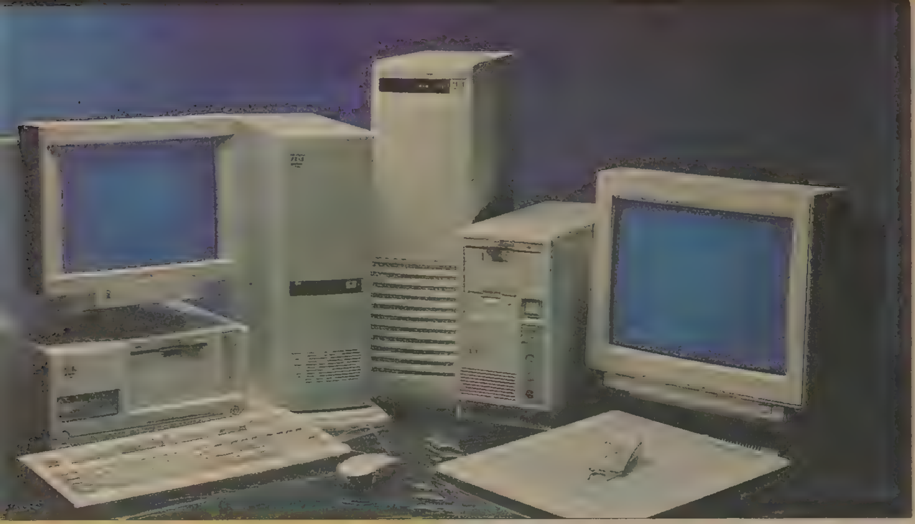
PC MAG 486/66 Processor Harmonic



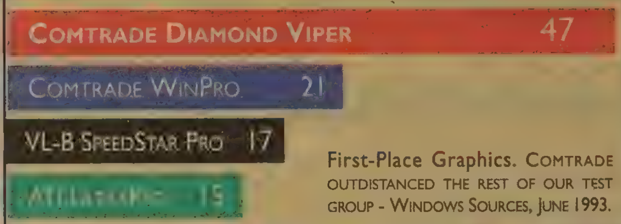
Sources: 486/66DX2 Review
PC Magazine January 26, 1993

Processor & memory performance are the most important elements to achieve top performance. It is foundational, unchangeable, determined by a systems actual design. As you can see, Comtrade is technologically superior by design. And Comtrade takes this design excellence even further: to maximize performance, now every Comtrade system has a 32-bit ultra fast Hard Drive controller and a VL-Bus graphics accelerator for a total 32-bit video and hard drive solution.

> The Comtrade 486 achieved the best processor performance of all profiled systems.
> - PC Sources, February 1993.



Comtrade's Thunderous VL-Bus Video



First-Place Graphics. Comtrade outdistanced the rest of our test group - Windows Sources, June 1993.

WinMark 3.1 (Million pixels per second)

Pentium Ready

Once again "THE COMTRADE PC" has the competition running for cover. In review after review, critic's applaud Comtrade shocking speed and extraordinary value. According to the recent PC Magazine, Comtrade's 486 system "Has The Performance Issue Licked." It's no wonder Comtrade is awarded PC Sources Magazine "**Direct Hit**" (Best Buy/Editor's Choice) (Feb 1993). "It's A Very Swift Graphics Machine," says Computer Shopper (May 1992). "That Deserves Serious Consideration from Anyone Who Wants to Juice up Windows." Comtrade's latest VESA Local Bus WinPro or Viper graphics accelerators are even up to 3 to 5 times faster than our previously reviewed systems.

No Contest!
Comtrade processor outpaced all the other - Windows Sources, June 1993.

The Intel Inside Logo, Pentium, Over

EISA Dream Machine (VL-Bus)

- OverDrive Socket for Future **Pentium**™ Technology
- 256K Write Back Cache SRAM & 2 VL-Bus Slots
- 8MB RAM & Expandable to 128MB
- 1.2MB 5.25" & 1.44MB 3.5" Floppy Drives
- 32-Bit EISA or VL-Bus IDE **Smart Cache** HD Controller (8,200/19,000KB/Sec Data Transfer Rate on EISA DMA)
- 250MB 12ms IDE Drive with 64K Cache
- 32-Bit VESA Local Bus **WinPro** Graphics Accelerator with 1MB RAM (Up to 1280x1024 & up to 16.7 million Colors) (Up to 50 times faster than standard Super VGA)
- 15" Flat Screen .28mm 1280x1024 SVGA Monitor (**Low Radiation**, 36% larger edge to edge display)
- 2 Serial, 1 Parallel & 1 Game Ports
- Enhanced 101-key Keyboard & Serial Mouse
- One Year Parts & Lifetime Labor Warranty

486/33 DX $1925
486/66 DX2 $2195

- 17" Flat Screen .28mm 1280x1024 Monitor Add $420
- Replace 1.2MB Drive with 350ms CD-ROM Add $170

EISA SCSI-2 (VL-Bus)

- OverDrive Socket for Future **Pentium**™ Technology
- High Speed EISA DMA with 2 VL-Bus Slots
- 128K Cache SRAM & Expandable to 256K
- 8MB RAM & Expandable to 128MB
- 1.2MB 5.25" & 1.44MB 3.5" Floppy Drives
- 32-Bit VL-Bus Bus-Master SCSI-2 HD Controller
- 250MB 12ms SCSI-2 Drive with 256K Cache
- 32-Bit VESA Local Bus **WinPro** Graphics Accelerator with 1MB RAM (Up to 1280x1024 & up to 16.7 million Colors) (Up to 50 times faster than standard Super VGA)
- 14" Non-Interlaced .28mm 1024x768 SVGA Monitor
- 2 Serial, 1 Parallel & 1 Game Ports
- Enhanced 101-key Keyboard
- Hi-Resolution 400 DPI Serial Mouse
- One Year Parts & Lifetime Labor Warranty

486/33 DX $1845
486/66 DX2 $2125

- 15" Flat Screen 1280x1024 Monitor Add $120
- 545MB / 1,370MB SCSI-2 Hard Drive Add $450 / $1090

MultiMedia (VL-Bus)

- OverDrive Socket for Future **Pentium** Technology
- 128K Cache SRAM & Expandable to 256K
- 4MB RAM & Expandable to 32MB
- 1.2MB 5.25" & 1.44MB 3.5" Floppy Drives
- VESA Local Bus IDE Hard Disk Controller
- 250MB 12ms IDE Drive with 64K Cache
- 32-Bit VL-Bus **Diamond SpeedStar Pro** Accelerator with 1MB RAM (Up to 1280x1024 & up to 16.7 million Colors)
- 14" Non-Interlaced .28mm 1024x768 SVGA Monitor
- 2 Serial, 1 Parallel & 1 Game Ports
- Enhanced 101-key Keyboard & Serial Mouse
- High Speed 350ms **CD-ROM** and 2 Stereo Speakers
- **SoundBlaster** Compatible Card & 4 CD-ROM Titles: (U.S. Atlas, World Atlas, ChessMaster, & Typing Tutor)
- One Year Parts & Lifetime Labor Warranty

486/33 DX $1825
486/66 DX2 $2095

- 15" Flat Screen & Low Radiation Monitor Add $120
- 340MB Hard Drive Upgrade Add $100

VESA Local Bus WinMax

- OverDrive Socket for Future **Pentium**™ Technology
- True VESA Standard Local Bus Graphics Accelerator
- 128K Cache SRAM & Expandable to 256K
- 4MB RAM & Expandable to 32MB
- 1.2MB 5.25" & 1.44MB 3.5" Floppy Drives
- VESA Local Bus IDE Hard Disk Controller
- 210MB 12ms IDE Drive with 64K Cache
- 32-Bit VL-Bus **Diamond SpeedStar Pro** Graphics Accelerator 1MB RAM (Up to 1280x1024 & up to 16.7 million Colors) (Up to 25 times faster than standard Super VGA)
- 14" Non-Interlaced .28mm 1024x768 SVGA Monitor
- 2 Serial, 1 Parallel & 1 Game Ports
- Enhanced 101-key Keyboard
- Hi-Resolution 400 DPI Serial Mouse
- One Year Parts & Lifetime Labor Warranty

486/33 DX $1445
486/66 DX2 $1725

- 14400 Baud Fax Modem with Software Add $190
- 15" Flat Screen & Low Radiation Monitor Add $120

VESA Local Bus Spitfire

- OverDrive Socket for Future **Pentium**™ Technology
- 128K Cache SRAM & Expandable to 256K
- 8MB RAM & Expandable to 32MB
- 1.2MB 5.25" & 1.44MB 3.5" Floppy Drives
- VESA Local Bus IDE Hard Disk Controller
- 250MB 12ms IDE Drive with 64K Cache
- 32-Bit VL-Bus **Diamond SpeedStar Pro** Graphics Accelerator 1MB RAM (Up to 1280x1024 & up to 16.7 million Colors) (Up to 25 times faster than standard Super VGA)
- 15" Flat Screen .28mm 1280x1024 SVGA Monitor (**Low Radiation**, 36% larger edge to edge display)
- 2 Serial, 1 Parallel & 1 Game Ports
- Enhanced 101-key Keyboard
- Hi-Resolution 400 DPI Serial Mouse
- One Year Parts & Lifetime Labor Warranty

486/33 DX $1725
486/66 DX2 $1995

- 17" Flat Screen .28mm 1280x1024 Monitor Add $420
- Replace 1.2MB Drive with 350ms CD-ROM Add $170

VESA Local Bus Professional

- Best for QuarkXpress, PhotoShop, or AutoCAD
- OverDrive Socket for Future **Pentium** Technology
- 128K Cache SRAM & Expandable to 256K
- 8MB RAM & Expandable to 32MB
- 1.2MB 5.25" & 1.44MB 3.5" Floppy Drives
- VESA Local Bus IDE Hard Disk Controller
- **340MB** 12ms IDE Drive with 64K Cache
- 32-Bit VESA Local Bus **WinPro** Graphics Accelerator with 1MB RAM (Up to 1280x1024 & up to 16.7 million Colors)
- 17" Flat Screen 0.28mm 1280x1024 SVGA Monitor (**Low Radiation** MPR-II standard for vision protection)
- 2 Serial, 1 Parallel & 1 Game Ports
- Enhanced 101-key Keyboard
- Hi-Resolution 400 DPI Serial Mouse
- One Year Parts & Lifetime Labor Warranty

486/33 DX $2245
486/66 DX2 $2525

- Above System with 12"x12" Digitizer Add $320
- VL-Bus Diamond Viper Accelerator Add $220

818.961.6688

Fax 818.369.1479
Hours: 7:00-7:00 Pacific Mon-Sat
15314 East Valley Boulevard
City of Industry, California 91746

COMTRADE
"Where Quality is Everything"

PEACE OF MIND • 30-Da Money Back Guarantee • One Year Parts Lifetime Labor Warranty • Lifetime Unlimite Technical Support • 8 years in business & bein one of the top ten largest mail order compani

PC CONSULTANT CLUB

INTEL 486DX™
VESA LOCAL BUS SYSTEM

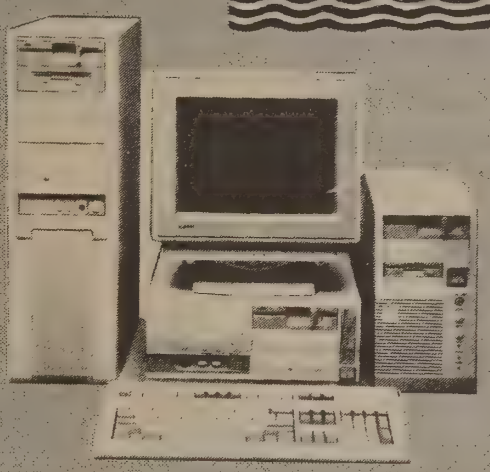
- Medium Tower Model
- INTEL 486DX™ CPU
- 2 (32 Bits) Local Bus Slots
- 4MB RAM/256K Cache
- TEAC 1.2MB And 1.44MB FDDs
- 32 Bits Hard Drive VLB Controller
- 210MB IDE Hard Disk 13ms
- Super VGA VESA Local Bus 16.7 Mils Colors Resolution Up To 1280x1024
- 2 Serial/1 Parallel/Game
- 101 Enhanced Keyboard
- 14" Non-Interlaced Super VGA Monitor
- Hi-Resolution Serial Mouse

I486DX/33MHz	**$1479**
I486DX/50MHz	**$1594**
I486DX2/66MHz	**$1710**

INTEL 486DX™
EISA/ISA/VESA LOCAL BUS COMBO

- Medium Tower Model
- INTEL 486DX™ CPU
- 4MB RAM/256K Cache
- TEAC 1.2MB And 1.44MB FDDs
- 2MB Cache 32 Bits Hard Drive Controller
- 210MB IDE Hard Disk 13ms
- Local 32 Bits SVGA 1280x1024 Video
- 101 Enhanced Keyboard
- 2 Serial/1 Parallel/Game
- 14" Non-Interlaced Super VGA Monitor
- Hi-Resolution Serial Mouse

I486DX/33MHz	**$1715**
I486DX/50MHz	**$1830**
I486DX2/66MHz	**$1945**



INTEL 486DX™
ISA BUS

- Minitower Or Desktop Model
- INTEL 486DX™ CPU
- 4MB RAM/256K Cache
- TEAC 1.2MB And 1.44MB FDDs
- IDE + I/O (2 Serial/1 Parallel/Game)
- Trident 8900CL 32 Bits Bus RAM 1MB SVGA (1280x1024) Controller
- 120MB IDE Hard Disk Maxtor
- Super VGA 14" Color Monitor
- 101 Enhanced Keyboard
- Hi-Resolution Serial Mouse

I486DX/33MHz	**$1288**
I486DX/50MHz	**$1403**
I486DX2/66MHz	**$1518**

AMD 386DX/40MHz™
ISA BUS

- Minitower Model
- AMD 40MHz™ CPU
- 4MB RAM/128K Cache
- TEAC 1.2MB And 1.44MB FDDs
- 120MB IDE Hard Disk
- IDE + I/O 2 Serial/1 Parallel/Game
- Trident 8900CL 32 Bits Bus RAM 1MB SVGA (1280x1024) Controller
- Super VGA 14" Color Monitor
- 101 Enhanced Keyboard
- Hi-Resolution Serial Mouse

$1000

386SX/33MHz ISA BUS

- Minitower Model
- 386SX/33MHz CPU
- 2MB RAM Installed
- TEAC 1.2MB And 1.44MB FDDs
- IDE + I/O 2 Serial/1 Parallel/Game
- 120MB Hard Disk 16ms
- Super VGA Monitor 14"
- Super VGA Controller
- 101 Enhanced Keyboard
- Hi-Resolution Mouse

$850

NOTEBOOK 486DX/DLC/SLC

- 486 DX/DLC/SLC
- 1.44MB Microfloppy
- 2 Serial/1 Parallel
- 120MB HDD
- VGA Gray Scale Screen
- 7 Lbs./3 Hours NICAD Battery
- Carrying Bag and AC Adapter
- Hi-Resolution Serial Mouse

SLC 25MHz/Trackball/Fax/Modem	$1880
DLC 33MHz/Internal/Fax/Modem	$2030
DX 33MHz w/External Keypad	$2099

PC CONSULTANT CLUB

- ✪ Running on a US Robotics Dual Standard Modem
- ✪ 14,400 Baud - 1200 Baud V.32/V.32bis/hst
- ✪ Latest hardware support drivers on-line
- ✪ Private area for Dealers and Resellers
- ✪ Tech support questions and answers
- ✪ Shareware programs and utilities
- ✪ Hardware spec/data sheet on-line
- ✪ Up-to-date On-line price list
- ✪ 100's of items listed
- ✪ Weekly specials

CADD STATION CUSTOMIZED TO YOUR NEEDS!

- I486DX/50MHz 8MB of RAM Computer
- 20" Hitachi Monitor 1280x1024
- Summagraphics 12x12 Digitizer
- HP/Houston Int. Plotter

$$PLEASE CALL FOR PRICES$$

- **We do Novell & Lantastic networking**
- **Call for configurations not listed!**
- **Dealer and Consultant inquiries welcome**
- **Prices subject to change w/out notice**

BREA
2861 Saturn St. - Unit A
Brea, CA 92621
(714) 579-1555

GARDEN GROVE
14351 Euclid Street - Unit R
Garden Grove, CA 92643
(714) 554-3892
FAX: 714-554-8169

CITIZEN Tandon AST EPSON intel EVEREX

YOUR FINAL SOURCE FOR

★ NOTEBOOK BLOWOUT! ★

•Authorized Dealer•

• T4400C TFT-Active Matrix 486SX-25, 4MB, 1.44, 9.5" Screen, upgradeable to DX, 7.9lbs.	
120MB	$3399
200MB 486DX	CALL
• T4500 486SX-20, 4MB DOS, Windows, Trackball	
80MB	$2099
120MB	$2239
• T4500C 120	$3199
• T4500C 200	CALL
• Toshiba 1900 120 MB/4 PCMCIA	$1775
• Toshiba 1900C 120 MB/4 PCMCIA	2425
• Toshiba 4600 SL33 120 MB/4	2845
• Toshiba 4600C SL33 120MB/4	3955
• Toshiba 6400mm 200MB	CALL
• Toshiba 4400C 120MB	3425
• Toshiba 4400C 200MB	4095

TOSHIBA

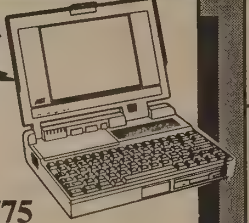
• DYNAPAD T100X 40HDD 386SXLV-25, Pen Point Ready	NEW
• T6400DX 200HDD 486DX-33, 4MB, Gas Plasma 11.7lbs.	$3579
• T6400DXC 200HDD 486DX2-50, 4MB, Active Matrix	$5475
•T6400 MM 200 Multimedia 486DX2-50, Active Multimedia	NEW

MACINTOSH

MAC LC III 4/160	$1379
Centris 610 4/80	$1595
Centris 650 4/80	$2399
Quadra 800 8/230	$3749
Quadra 800 8/500	$4699
Powerbook 165 Color 4/80	$2499
Powerbook 180 4/120	$3699
Stylewriter II	$329
Powerbook 145, 4MB/40/80	$1650/1950
Powerbook 160, 4MB/40/80/120	$2149/CALL/2759
Powerbook Duo 210, 4MB/80	$1895

AST

LIMITED QUANTITY!



Premium Exec
386 SX/20 Notebook

w/40 MB HD	$775
w/60MB HD	$875

IBM

ValuePoint 425SX 120/170 486SX-25, 4MB, SVGA, K.B.DOS, Windows & Mouse	1099/1295
ValuePoint 433DX	120/212
486DX-33, 4MB, SVGA, K.B., DOS, Windows & IBM Mouse	1499/1675
ValuePoint 466DX2	212MB
486DX2-66, 4MB, SVGA, K.B., DOS, Windows & IBM Mouse	2129
*Above Available with 8MB RAM & OS/2 Thinkpad 300, 80/120	1875/CALL
386SL-25, 4MB RAM, DOS 5.0, Pointing Device Thinkpad 700, 80/120	CALL/2699
486SLC 25, 4MB, VGA Mono, DOS 5.0, Pointing Device Thinkpad 700C, 120	CALL
Active Matrix Color, 486SLC, 4MB, DOS 5.0, Pointing Device Thinkpad 720/720C, 120/200	CALL

Texas Instruments
TM4000 WIN SX 25MHz

- 4MB RAM
- 120MB HD
- 3.5 FD
- Windows 3.1
- DOS 5.0
- Trackball Mouse

$1920

TM4000E WIN DXZ 50
ACTIVE MATRIX COLOR

- 4MB Ram
- 200MB HD
- 3.5FD
- Windows 3.1
- DOS 5.0
- Trackball Mouse **$4295**

AST

Power Exec 386SL/25, 60 MB	$2185
Power Exec 386SL/25C, 80MB	3195
Power Exec 386/25SL, 120MB Mono	2395
Power Exec 386/25SLC, 120MB Color	3565

Hard Disk & Monitor Extra

Call for pricing on Premium Line

AT 286 12MHZ
BAREBONES

- MINI TOWER CASE
- 12MHz MOTHERBOARD
- 1.2 OR 1.4 MB FLOPPY DRIVE
- HARD & FLOPPY CONTROLLER IDE
- 101 KEY KEYBOARD
- CLOCK/CALENDAR
- 2 SERIAL PORTS/ 1 PRINTER PORT/GAME

$225

386DX 40MHZ
W/64K CACHE
BAREBONES

- MINI TOWER CASE
- 40 MHz 386 MB W/64K CACHE
- 1.2 OR 1.4 MB FLOPPY DRIVE
- HARD & FLOPPY CONTROLLER IDE
- 101 KEY KEYBOARD
- CLOCK/CALENDAR
- 200 WATT POWER SUPPLY
- 2 SERIAL PORTS/ 1 PRINTER PORT/GAME

$340

486DX 33MHZ
W/256K CACHE
BAREBONES

- MINI TOWER CASE
- 33 MHz 486 MB W/256K CACHE
- 1.2 OR 1.4MB FLOPPY DRIVE
- HARD & FLOPPY CONTROLLER IDE
- 101 KEY KEYBOARD
- CLOCK/CALENDAR
- 200 W POWER SUPPLY
- 2 SERIAL PORTS/ 1 PRINTER PORT/GAME

$595

386SX/40MHz
BAREBONES

- MINI TOWER CASE
- 40 MHz 386SX MB
- 1.2 OR 1.4 MB FLOPPY DRIVE
- HARD & FLOPPY CONTROLLER IDE
- 101 KEY KEYBOARD
- CLOCK/CALENDAR
- 2 SERIAL PORTS/ 1 PRINTER PORT/GAME

$265

COMPUTER BUSINESS CENTER

MON-FRI
8:30-6:00
SAT:10-4

We Will Try to Beat Any Advertised Price

Seagate NEC IBM
COMPAQ HEWLETT PACKARD TOSHIBA

COMPUTER SOLUTIONS

CAF TECHNOLOGY 386-40 MHz

FCC CLASS B & NOVELL APPROVED
- 80386-40MHz 64k Cache Motherboard
- 4MB RAM Expandable to 32MB
- Mini Tower Case/Power Supply
- IDE (Hard/Floppy) Control
- TEAC 1.2 MB Floppy Drive
- TEAC 1.44 MB Floppy Drive
- 80MB Hard Disk
- Serial/Parallel/Game Card
- Super VGA 1024x768 Monitor & 1MB Card
- 101 Keyboard

$1095

CAF TECHNOLOGY 486-33 MHz

FCC CLASS B & NOVELL APPROVED
- 80486-33MHZ 64K Cache Motherboard
- 4MB RAM Expandable to 32MB
- Desk Top
- IDE (Hard/Floppy) Control
- TEAC 1.2MB Floppy Drive
- TEAC 1.44MB Floppy Drive
- 120MB Hard Disk
- Serial/Parallel/Game Card
- Super VGA 1024x768 Monitor & 1MB Card
- 101 Keyboard

$1450

HEWLETT PACKARD

LaserJet 4	$1369
LaserJet 4L	659
LaserJet 4SI	2975
LaserJet IIIP	849
DeskJet 500	369
DeskJet 500C	499
DeskJet 550C	699
ScanJet IIP	749
ScanJet IIC	1379

Memory Upgrades III & IIP

1 Mg	$80	2 Mg	$140
3 Mg	190	4 Mg	250

HP PostScript Card	489

For Laser II & IID

2 Mg	$129	4 Mg	$250

SONY MONITORS

Sony 1304 w/Cable	$585
Sony 1302 900x560 .25	549
Sony 1320 720x480 .25	439

NEC

Authorized Dealer

NEC 3FGX	$599
NEC 4FG	749
NEC 5FGE	1099
NEC 5FG	1340
NEC 6FG	2299

NOTEBOOKS

Ultra Lite

486 SL/25, 120HD 4MB RAM	$2750
486 SL/25C, 120MB, 4MB.	3978

EPSON AUTHORIZED DEALER

LX-810, 9 Pin	$179
LQ-570+, 24 Pin	275
FX-870/FX117	279/369
LQ-870/LQ-1170, 24 Pin	449/609
LQ-1070 24 Pin, 132 Col.	395
LQ-2550 24 Pin, High Speed	899
DFX-5000 9 Pin, 533 CPS	CALL

• LASER •

Actionlaser 1000, 6PPm	$659
EPL-8000 Laser, 10PPm, 1MB	1029

All Accessories Available

CITIZEN

Authorized Sales/Service

GSX 190 NEW	$179
GSX 240 NEW	309
GSX 130	275
GSX 145, 132 COL	409
200GX, 9 Pin	169
Color Option	49/69

CANON Bubble Jet

BJ-10EX Printer	$259
BJ-300 80 col, 600cps	359
BJ-330 132 col, 600cps	595
BJ-200 360dpi	359
BJC-800/820 Color	1889/1995

OKIDATA PRINTERS

Authorized Dealer

320/321	$319/429
Oki 520/521	379/495
390/391	429/585
Oki 590/591	439/589
Oki 400 4ppm w/ Toner	488*
Oki 810 8ppm w/Toner	899
Oki 830 8ppm Postscript, 35 Fonts, 2MB RAM	1079
Oki 850 8ppm 2MB, Postscript, Apple Talk	1259

*After manufactures rebate (7/31/93 exp.)

COLORADO

MEMORY SYSTEMS INC.

120MB Low Cost Backup
- Fast-4MB in Under 1-1/2 Min
- QIC-40 Interchange Standard
- Floppy Interface
- PC, XT, AT and PS/2
- Novell, 3COM and Xenix

Internal unit w/tape	$195
External unit w/tape	325
For 250 MB, add	50

LIMITED QUANTITY

TAX FONT HP LASER FAMILY	$69
NEC 2A MTR	265
Logic Tech Mouse	26
POCKET SIZE MODEM, 1200 BAUD	20
SEND/RECEIVE FAX MODEM (14.4 SB, 14.4 MODEM)	199

386SX-33MHZ

- 2MB & 1.44 Floppy Drive
- 60MB Hard Drive
- 2 Serial, 1 Parallel, 1 Game Port
- SVGA Card
- SVGA 1024 x 768 Color Monitor
- 101 Keyboard
- Mini-Tower Case
- 101 Keyboard
- Serial Mouse

$729

486DX2-66MHZ

256 Cache
- 4MB Ram
- 1.2MB & 1.44 Floppy Drive
- 245MB Hard Drive
- SVGA 1MB Card
- Super VGA 1024 X 768 Color Monitor .28 Non-Interlaced
- 101 Keyboard
- Mini-Tower Case
- Serial Mouse

$1599

486DX-33 MHz

256 Cache
4MB Ram
- 1.2MB & 1.44 Floppy Drive
- 120MB Hard Drive
- SVGA 1MB Card
- Super VGA 1024x768 Color Monitor .28
- 101 Keyboard
- Mini-Tower Case
- Serial Mouse

$1299

486DX-50 MHz

256 Cache
- 4MB RAM
- 1.2MB & 1.44 Floppy Drive
- 245MB Hard Drive
- SVGA 1MB Card
- Super VGA 1024x768 Color Monitor .28 Non-Interlace
- 101 Keyboard
- Mini-Tower Case
- Serial Mouse

$1499

IBM 486SLC-50MHz

Motherboard w/3 year warranty
- 128K Cache & 16K Int. Cache
- 4MB Ram
- 1.2MB & 1.44 Floppy Drive
- 120MB Hard Drive
- SVGA 1MB Card
- Super VGA 1024x768 Color Monitor .28 Non-Interlaced
- 101 Keyboard
- Mini-Tower FCC Case
- Serial Mouse

$1295

386DX-40 Mhz, 128K Cache

- 4MB Ram
- 1.2MB & 1.44 Floppy Drive
- 60MB Hard Drive
- SVGA 1MB Card
- Super VGA 1024x768 Color Monitor .28
- 101 Keyboard
- Mini-Tower Case
- Serial Mouse

$950

• SANTA MONICA •
(310) 452-2027 • FAX (310) 452-5548

• SIMI VALLEY •
(805) 584-8307 • FAX (805) 584-8379

MAGICTEK

BBS: (714)939-9219

Highest Quality Systems & Service, At The Lowest Prices!

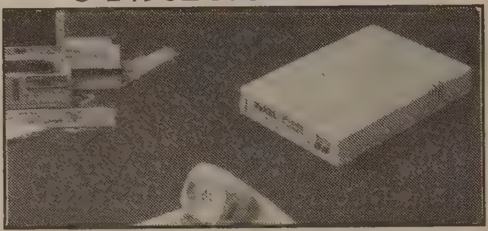
FINANCING AVAILABLE

FREE MOUSE PAD W/SYSTEM PURCHASE!

DEALERS/ CONSULTANTS ARE WELCOME! CALL FOR PRICING!!!

THIS MONTH'S SPECIAL

ZyXEL V.32 bis 16.8Kbps U-1496E MODEM/FAX



ONLY $305

(w/Purchase of 486-33MHz System)

486-33MHz 256K CACHE

- 486-33MHz CPU (Intel)
- 256K External Cache
- Built-In Math Co-Processor & 8K RAM Cache
- 4 Meg Installed Expandable to 32 Meg On Board
- 245MB IDE 15ms
- IDE Controller
- 1.2 & 1.44 Floppy Drive
- AT I/O, 2 Serial, 1 Parallel, 1 Game Ports
- Super VGA Card w/1024K
- Super VGA Monitor Non-Interlace (.28dpi) (Viewsonic 6)
- 101 Enhanced Keyboard
- Mid Tower Case & 230W Power Supply
- DOS 6.0 w/Manuals

$1459

DX/DX2-50MHz Available	CALL
DX2-66MHz Available	CALL
VESA Local Bus Available	CALL

CYRIX 486DX-33MHz 256K CACHE

- Cyrix 486DX-33MHz CPU
- 256K External Cache
- 4 Meg Installed Expandable to 32MB
- 80387 Math Co-Processor
- 170MB Hard Drive
- IDE Controller
- 1.2 & 1.44 Floppy Drive
- AT I/O, 2 Serial, 1 Parallel, 1 Game Ports
- Super VGA Card w/1024K
- Super VGA Monitor (1024x768, .28mm)
- 101 Enhanced Keyboard
- AT Digital Tower Case & 230W Power Supply
- DOS 6.0 w/Manuals

$1119

1 Year Parts & Labor Warranty For Systems

386-40MHz 128K CACHE

- 386-40MHz CPU
- 128K External Cache
- 4 Meg Installed Expandable to 32MB
- 80387 Math Co-Processor Socket
- 120MB Hard Drive
- IDE Controller
- 1.2 & 1.44 Floppy Drive
- AT I/O, 2 Serial, 1 Parallel, 1 Game Ports
- Super VGA Card w/1024K
- Super VGA Monitor (1024x768, .28mm)
- 101 Enhanced Keyboard
- AT Digital Tower Case & 230W Power Supply
- DOS 6.0 w/Manuals

$995

386SX-40MHz

- 386SX-40MHz CPU
- 80387 Math Co-Processor Socket
- 80MB Hard Disk 28ms
- VGA Card 16 Bit
- Mini Tower Case & 200W Power Supply
- 2MB Installed
- 16 Bit 1:1 H&F Controller (IDE)
- 1.2 Floppy Drive
- AT I/O, 2 Serial , 1 Parallel, 1 Game Port
- VGA Monitor (Viewsonic 1)
- 101 Enhanced Keyboard
- DOS 6.0 w/Manuals

$759

CD-ROM

Panasonic (Mitsushita) CD ROM	$250
Creative Lab Discovery CD 16	475
SONY 541 (SCSI) CD ROM	365
SONY U31A-02 CD ROM	255
CD Software	95
Toshiba 3401 (SCSI) 200ms	440

SOUND CARDS

Sound Blaster Pro 16 ASP	$215
Sound Blaster Pro Deluxe	125
Pro Audio 16	185

VIDEO CARDS

Cirrus Logic 1 MG VGA	$55
Orchid Fahrenheit 1280 ISA	175
VESA Local Bus Orchid Fahrenheit	195
Diamond Stealth 24X	170
VLB Cirrus Logic VGA	98
Video Blaster	345
All VESA Local Bus Video Cards Available	CALL

MONITORS NEW!

CALL FOR BEST PRICE!

ViewSonic 15	
ViewSonic 17	
ViewSonic 20	
ViewSonic 1 14", .39dp, 640x480	
ViewSonic 4E 14", .28dp, 1024x768	285
ViewSonic 5+ 14", .25dp, 1024x768, 72Hz Refresh	509
ViewSonic 5E 14", .28dp, 1024x768, 72Hz Refresh	399
ViewSonic 6 14", .28dp, 1024x768, 72Hz Refresh	329
ViewSonic 6FS 15", .28dp, 1024x768, 72Hz Refresh	550
ViewSonic 7 17", .28dp, 1280x1024, 72Hz Refresh, N/I	875
ViewSonic 8 20", .31dp, 1280x1024, 72Hz Refresh, N/I	1530
MAG 15"	550
MAG 17"	999

COLOR NOTEBOOKS NOW AVAILABLE!

NOTEBOOK

- 486SX 25MHz
- 4MB RAM
- 1.44MB Drive
- 120MB Hard Disk
- VGA Screen
- 2 Serial, 1 Parallel
- Internal Fax/Modem
- Carrying Bag

$1495

486DX-33MHz	CALL
386SX-25MHz	CALL
386SX Color	CALL

PRINTERS:

Panasonic 2180	$169
Panasonic 1124i	275
Panasonic 4410	625
Epson All Models	CALL
HP Laser Printer All Models	CALL

MISCELLANEOUS:

AT I/O w/16550 chip	$32
Adaptec SCSI 1542C	205
IDE w/Cache (512K Upgrade to 16.5MB)	125
TEAC Floppy Drive (1.2M)	52
TEAC Floppy Drive (1.44M)	46
V-L IDE I/O Controller	49
TEAC 2-in-1	125

CASES:

Mini Tower w/Digital	$55
Mid Tower w/Digital	72
Big Tower w/Digital 230W	105
Big Tower w/Digital (10 Spaces) 250UL	145

MOUSE:

Logitech	$62
Microsoft	58
Portable Trackball	59
Serial Mouse	15
DEXXA Mouse	22

MEMORY CHIPS/MATH COPROCESSORS CALL!

COLORADO TAPE DRIVES:

120MB	$165
250MB	195
DC 2120 Tape	18

KEYBOARDS:

Maxi-Switch	$34
Fujitsu 4700-601KB	38
Focus 2001	36
BTC 53309SX	21
Keytronic BE/SE (Big/Small Enter)	40
NMB	38
Focus 9000	65

HARD DISK:

Maxtor	$CALL
Conner	CALL

MasterCard VISA **BUSINESS HOURS:** MONDAY-FRIDAY: 9:30 A.M. - 7:00 P.M.
SATURDAY: 10:00 A.M. - 3:30 P.M.

COMPUTERS

TEL: (714)939-9220

FAX: (714)939-9221

THE ALL•IN•ONE SMALL BUSINESS SOLUTION

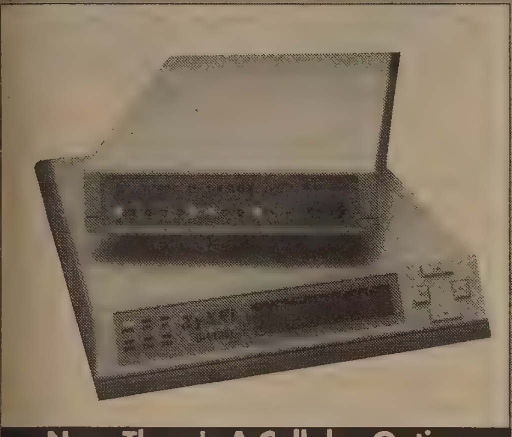
PCComputing HARDWARE 200 TOP RATED 1993

ZyXEL's intelligent modem integrates data, fax and voice/digital answering capability.

ZyXEL High Speed Modem/Fax With Voice

NEW

Plus Series Now With ZyXEL's 19.2Kbps & Advanced Voice Capability



Now There's A Cellular Option For The Plus Series!

ZyXEL U-1496 Plus

$695

- LCD Display and Friendly Menu Control
- 2/4 Wire Dial-Up/Leased Lines
- Line Condition Monitoring
- V.33, V.29 And V.27ter.

THIS MONTH'S SPECIAL!

ZyXEL U-1496E Plus

$459

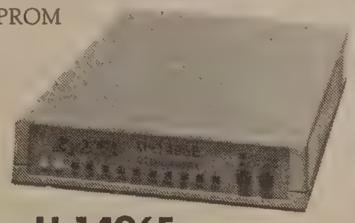
- LED Indicators With Voice/Data and Answer/Originate Switches
- 2 Wire Dial-Up/Leased Lines

FREE High Speed I/O And Cable w/Zxyel U-1496E Plus purchase

ZyXEL's U-1496 Series Meets All Of Your Modem Requirements, Achieving Optimum Levels Of Data Integrity At The Highest Transfer Speed Available

- ZyXEL's 16.8Kbps
- Speed Range: 14.4Kbps, 12Kbps, 9.6Kbps, 7.2Kbps, 4.8Kbps, 2.4Kbps, 1.2Kbps and 300bps
- CCITT Standards: V.32bis, V.32, V.22bis, V.22 BELL/212A, V.21 BELL 103
- DTE Speeds Up To 57.6Kbps
- V.17-14.4Kbps EIA Class 2 G3 FAX (S&R)
- V.42bis/MNP® 5 Data Compression and V.42 MNP® 4/3 Error Correction
- Caller ID & Distinctive Ring
- Fast Retrain With Auto Fall-Forward/Back
- V.25bis Autodial and AT Command Set
- Remote Configuration
- Firmware Upgradable by EPROM

ZyXEL Modems Run In Windows®, DOS, Macintosh®, OS/2®, UNIX®, NeXT® and Amiga® Environments and Are Compatible With Most Popular Communications and Fax Software. All ZyXEL Modems Come With FREE ZFAX Software and A 5 Year Warranty, Parts and Labor.



U-1496B
P.C. Plug-In-Card
- 16.8Kbps Data & 14.4Kbps Fax

$295

TECHNICAL SUPPORT
(714)939-9220
ZyXEL Modems Have FAX Software Options For IBM™ PC's With Windows®...add $30 & Macintosh®...add $45
All Brands and Trademarks Are The Property Of Their Respective Owners.

$325

U-1496E
External Modem
- 16.8Kbps Data & 14.4Kbps Fax

LOCAL AREA NETWORKING INTERFACE CARDS & ACCESSORIES

ETHERNET ADAPTERS

8 Bit Ethernet Card w/8K Buffer	$60
16 Bit Ethernet Card w/16K Buffer	70
16 Bit Ethernet 10 BASE-T Card	85
Ethernet Card for PS/2 50, 60 & 80	175
Pocket Ethernet	195
Pocket Arcnet	185
Lantastic 4.1	CALL
NOVELL Lite 1:1	CALL

ARCNET ADAPTERS

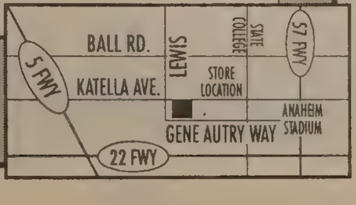
8 Bit Arcnet/Star/Coaxial	$40
8 Bit Arcnet/Bus/Coaxial	45
8 Bit Arcnet/Bus/Twisted Pair	60
16 Bit Arcnet/Star/Coaxial	65
16 Bit Arcnet/Bus/Coaxial	75
Window Work Group	CALL

ARCNET/ETHERNET HUBS

Arcnet 8 Port Active Hub	$145
Arcnet 4 Port Active Hub Card	65
Arcnet 4 Port Passive Hub	15
Arcnet 8 Port Twisted Pair Active Hub	145
8 Port ETHERNET 10 BASE-T Concentrator	350
12 Port ETHERNET 10 BASE-T Concentrator	485

(Prices subject to Change Without Notice.)

1218 E. KATELLA, ANAHEIM, CA 92805



Calendar Of Events

CONFERENCES, EXPOS, SHOWS, AND OTHER SPECIAL EVENTS

JULY

July 10 Computer Show & Sale. Riverside Convention Center. MarketPro Shows. Call: (415)388-8893.

July 11 Computer Show & Sale. San Diego. MarketPro Shows. Call: (415)388-8893.

July 17 Computer Show With Computer Training Seminar. LA Fairgrounds, Pomona. Computer Marketplace. Call: 1-800-800-5600.

July 18 Computer Show. Sherman Entertainment Center, Reseda. Computer Marketplace. Call: 1-800-800-5600.

July 24 Computer Show. Earl Warren Showgrounds, Santa Barbara. Computer Marketplace. Call: 1-800-800-5600.

July 24 Computer Show & Sale. Anaheim Stadium, indoors. Richard James Corp. Call: 1-800-433-7469.

July 24 Computer Show & Sale. Oxnard Civic Center. MarketPro Shows. Call: (415)388-8893.

July 25 Computer Show & Sale. Antelope Valley Fairgrounds. MarketPro Shows. Call: (415)388-8893.

July 31 Computer Show & Sale. CSUN, North Campus. Richard James Corp. Call: 1-800-433-7469.

AUGUST

August 1 Computer Show & Sale. Glendale Civic Auditorium. Richard James Corp. Call: 1-800-433-7469.

August 1–6 SIGGRAPH '93. Anaheim. ACM. Call: (312)321-6830. Email: info92@siggraph.org.

August 3–5 Downsizing Expo. Santa Clara. DCI. Call: (508)470-3880.

August 7–8 Computer Show With Computer Training Seminar. LA Fairgrounds, Pomona. Computer Marketplace. Call: 1-800-800-5600.

August 14 Computer Show & Sale. CSUN, North Campus. Richard James Corp. Call: 1-800-433-7469.

August 19–21 Fourth Annual Macintosh Summit Conference. Santa Barbara. UCSB Extension. Call: (805)893-3351. AOL: MacSummit.

August 21 Computer Show & Sale. Anaheim Stadium, indoors. Richard James Corp. Call: 1-800-433-7469.

August 22 Computer Show & Sale. Industry Hills Sheraton. Richard James Corp. Call: 1-800-433-7469.

August 21–22 Computer Swap Meet And Sale. Long Beach. Megabyte Computer Shows. Call: 1-800-745-0266.

August 22 Computer Swap Meet. Anaheim. Silicon Avenue. Call: (714)680-0828.

August 23–27 The Second International Symposium On Globalizing Software. Boston. Miller Freeman. Call: (415)905-2754.

August 25–27 INTEROP 93 Conference. San Francisco. Interop Co. Call: 1-800-488-2883.

August 26–27 Electronic Book Fair. San Francisco. Sumeria, Inc. Call: (415)904-0811.

August 28 Computer Show With Computer Training Seminar. LA Fairgrounds, Pomona. Computer Marketplace. Call: 1-800-800-5600.

August 30–31 Information Technology Summit—Fall '93. Midway, UT. UITA. Call: (801)944-1500.

SEPTEMBER

September 5 Computer Show & Sale. Glendale Civic Auditorium. Richard James Corp. Call: 1-800-433-7469.

September 10–12 San Diego Computer Faire 1993. San Diego. San Diego Computer Society. Call: (619)573-0617.

September 11 Computer Show. Sherman Entertainment Center, Reseda. Computer Marketplace. Call: 1-800-800-5600.

September 11–12 Computer Show & Sale. CSUN, North Campus. Richard James Corp. Call: 1-800-433-7469.

September 12 Computer Show. Sequoia Conference Center, Buena Park. Computer Marketplace. Call: 1-800-800-5600.

September 18 Computer Show & Sale. Anaheim Stadium, indoors. Richard James Corp. Call: 1-800-433-7469.

CLASSES, SEMINARS, AND WORKSHOPS

JULY

July 10 Lotus 1-2-3 Rel. 2.3 Level I Class. Monrovia. The Organizers. Call: (818)303-3311.

JULY 17 & AUGUST 7–8

COMPUTER SHOW

Pomona

Computer Marketplace computer shows feature over three hundred exhibits with thousands of products. They are now featuring seminars open to all users—from the beginner to the advanced computer user. Admission is $7.00 and shows are from 10:00 am to 5:00 pm. Los Angeles County Fairgrounds (Fairplex), Pomona. Call: 1-800-800-5600.

AUGUST 19–21

FOURTH ANNUAL MACINTOSH SUMMIT CONFERENCE

UC Santa Barbara

Guy Kawasaki, author, columnist, and former director of software product management at Apple Computer, will host this conference, which is targeted for experienced and high-end users who want to expand their knowledge of key applications and hardware areas. The conference brings together a collection of Macintosh gurus to lecture and to teach hands-on lab sessions. Contact: UCSB Extension, 6550 Hollister Ave., Goleta, CA 93117. (805)893-3351. America Online: MacSummit.

AUGUST 22, 1993

CALIFORNIA COMPUTER SHOW & SALE

Industry Hills Sheraton

The California Computer Show & Sale is coming to the City of Industry, at the Sheraton Conference Center. The show features millions of dollars in new PC compatibles, hardware, software, and accessories. Admission is $6.00 and the show runs from 10:00 am to 4:00 pm. Call: 1-800-685-1400.

July 10 Windows 3.1 Class. Monrovia. The Organizers. Call: (818)303-3311.

July 11–18 MacroMind Director 3.0 Course. Los Angeles. Dept. of the Arts, UCLA Extension. Call: (310)206-1422.

Continued

Computer MARKETPLACE

COMPUTER TRADE SHOW
WHOLESALE PRICES
OPEN TO THE PUBLIC

10:00 to 5:00 p.m.
Admission $7.00

"The Traveling Mall That Has It All"

Pomona Shows
FREE SEMINARS
300 EXHIBITS

Over a hundred companies having price wars with each other to compete for your business. You can't find this much inventory in a hundred computer stores nor can you get these prices. There is also a consignment table to sell your computer equipment.

1993 SHOW DATES

July 17
Saturday
POMONA - L.A. County Fairgrounds (Fairplex)
Exit Highway 10 at Fairplex Drive. Go North to Mckinley, turn right. Turn Left on White Avenue to Gate 14.

July 18
Sunday
RESEDA - Sherman Entertainment Center
From 101 Freeway, take Reseda off ramp, turn left (if traveling East) on Reseda Blvd. to Sherman Way, turn right, one block to Canby Street. 18430 Sherman Way.

New Location!

July 24
Saturday
Santa Barbara - Earl Warren Showgrounds
Take Highway 101 to Las Positas.

August 7 & 8
Saturday & Sunday
POMONA - L.A. County Fairgrounds (Fairplex)

August 28
Saturday
POMONA - L.A. County Fairgrounds (Fairplex)

September 11
Saturday
RESEDA - Sherman Entertainment Center

September 12
Saturday
BUENA PARK - Sequoia Conference Center
Take the Beach Blvd. Exit off the 91 Freeway, go one block North to 7530 Orangethorpe.

TRAINING SEMINARS

Co-sponsored with New Horizons

FREE Computer Training Seminars are scheduled at all Pomona Shows!

(408) 778-5200 or 800-800-5600

ACER • ALR • APPLE MACINTOSH • AST • COMPAQ • DELL • EPSON • EVEREX • GRID

DOES IBM HAVE YOU FEELING BLUE? HAS ZENITH LEFT YOU FLAT? DID YOU THINK hp MEANT HIGHER PRICES? WHEN COMPAQ WON'T COMPACT AND SUN DOESN'T SHINE! WHEN NO ONE WILL BE THE apple OF YOUR EYE!

Coast Computers

We Buy & Sell Used Computers

SYSTEMS, MONITORS, PRINTERS & PERIPHERALS

We have creative solutions to help maximize your computer budget. The flexibility to handle difficult logistics and de-installations. Our quotes for your systems offer greater value than current trade-in programs offered by others.

Coast Computers the solution solvers.

PC EXPO SPECIAL!

HP Vectra ES-12 WITH COLOR VGA $349
- 286/12
- 1 MB RAM
- 20 MB HARD DRIVE
- 101 KEYBOARD

HIGH TECH + HIGH SERVICE = LOW PRICE

COAST COMPUTERS
15 OUTRIGGER ST. SUITE 302
MARINA DEL REY, CA 90292

TEL: (310) 574-2828
FAX: (310) 574-2832

HP • IBM • MEMOREX • TELEX • NEC • TEXAS INSTRUMENTS • TOSHIBA • ZENITH

* MOTHERBOARD * MOTHERBOARD * MOTHERBAORD

Best Prices for Motherboard
Solve Your Upgrade Problems !

VESA Local Bus Motherboards With INTEL CPU
486DX-66/50/33 VESA Local Bus with 256K cache
AMI BIOS, Built-In Math Coprocessor, 8K Internal Cache, 3 Local Bus Slots, Up to 32 Meg RAM.
Special Price: $600/505/380

486 ISA Motherboards With INTEL CPU
486DX-66/50/33 ISA with 256K cache
AMI BIOS, Built-In Math Coprocessor, 8K Internal Cache, Up to 32 Meg RAM.
Special Price: $580/485/360

386 ISA Motherboards With CPU
386DX-33/40 ISA with 128K cache
Award BIOS, Support 33/40 Mhz Intel/AMD 386DX
Special Price: ———— $110

Motherboards Only, NO CPU
486DX-50/33 VESA w/256k — $100
486DX-50/33 ISA w/256k —— $ 80
386DX-40/33 ISA w/128k —— $ 50

F.C. International
TEL:(714)632-7364 FAX:(714)632-7366
1026 Segovia Circle, Placentia CA 92670
*Call for Weekly Price Updates *Dealer Inquires Welcome

MOTHERBOARD * MOTHERBOARD * MOTHERBOARD * MOTHERBOARD

Calendar Of Events continued

July 12 Basic AutoCAD Class. Laguna Hills. Computer Education Institute. Call: (714)472-4192.

July 13 Quicken 6.0: Manage Your Finances Class. Monrovia. The Organizers. Call: (818)303-3311.

July 14 Getting Started With 3D Modeling Workshop. Culver City. Apple Computer and Digital Vision Design & Automation. Call: (714)852-8660.

July 14 Intro To Personal Computers Class. Irvine. CPU Group. Call: (714)251-0112.

July 14 Windows 3.1 Class. Laguna Hills. Computer Education Institute. Call: (714)472-4192.

July 17 Lotus 1-2-3 Rel. 2.3 Level II Class. Monrovia. The Organizers. Call: (818)303-3311.

July 17 WordPerfect 5.1 Level I Class. Monrovia. The Organizers. Call: (818)303-3311.

July 19 Novell System Manager Class. Laguna Hills. Computer Education Institute. Call: (714)472-4192.

July 19 WordPerfect 5.1 For DOS Level II Class. Irvine. CPU Group. Call: (714)251-0112.

July 19–20 WordPerfect 5.1 Class. Laguna Hills. Computer Education Institute. Call: (714)472-4192.

July 20 Lotus 1-2-3 For Windows Level I Class. Irvine. CPU Group. Call: (714)251-0112.

July 21 Lotus 1-2-3 For DOS Level II Class. Irvine. CPU Group. Call: (714)251-0112.

July 21–22 Intro To Networking PCs With Novell Seminar. San Diego. Center for Advanced Professional Development. Call: (714)261-0240.

July 22 Intro To Personal Computers Class. Irvine. CPU Group. Call: (714)251-0112.

July 22 Software Licensing Agreements Seminar. San Diego. Center for Advanced Professional Development. Call: (714)261-0240.

July 22 WordPerfect 6.0 For DOS Class. Irvine. CPU Group. Call: (714)251-0112.

July 24 DOS Class: How To Use The Disk Operating And Hard Disk Management. Monrovia. The Organizers. Call: (818)303-3311.

July 24 WordPerfect 5.1 For DOS Level I Class. Irvine. CPU Group. Call: (714)251-0112.

July 24 WordPerfect 5.1 Level II Class. Monrovia. The Organizers. Call: (818)303-3311.

July 25–August 1 Color On The Desktop Course. Los Angeles. Dept. of the Arts, UCLA Extension. Call: (310)206-1422.

July 26–27 PageMaker Level I Class. Irvine. CPU Group. Call: (714)251-0112.

July 27 & 29 CorelDraw Level I Class. Irvine. CPU Group. Call: (714)251-0112.

July 28 Intro To Windows Class. Irvine. CPU Group. Call: (714)251-0112.

July 28–30 Usability Testing Of The Documentation And User Interface Of Computer Systems Course. Los Angeles. UCLA Extension. Call: (310)825-4192.

July 29 Lotus 1-2-3 For Windows Level II Class. Irvine. CPU Group. Call: (714)251-0112.

July 30 C++ Course. Orange. ICCA. Call: (714)738-3686.

July 31 Lotus 1-2-3 Rel. 2.3 Level III Class. Monrovia. The Organizers. Call: (818)303-3311.

July 31 WordPerfect 5.1 Level III Class. Monrovia. The Organizers. Call: (818)303-3311.

Summer Sale & Savings!

ISA 486DX CACHE

- . 4Mb RAM, 256k Cache
- . 1.2 & 1.44Mb Floppy Dr.
- . 105Mb IDE HDD
- . 1Mb SVga Card
- . SVga Monitor (.28)
- . MiniTower Case
- . 101 KeyBoard & Mouse
- . 2Serial, 1Par., 1Game

33MHz $1135.

Dx2 50 ... $1310.

Dx2 66 ... $1395.

VESA LB486DX

- . 4Mb RAM, 256k Cache
- . 1.2 & 1.44Mb Floppy Dr.
- . 210Mb IDE HDD
- . VLB 32 Bits IDE HDD Card
- . VLB 32 Bits SVga 1Mb
- . SVga Monitor (.28) Non-int
- . MiniTower Case, 2s/1p/1g
- . 101 KeyBoard & Mouse

33MHz $1335.

Dx2 50 ... $1480.

Dx2 66 ... $1565.

EISA 486DX2 50

- . 32 bits I/O BUS
- . 8Mb RAM
- . 1.2 & 1.44Mb Floppy Dr.
- . 210Mb IDE HDD
- . EISA HDD Adapter (DTC)
- . EISA 1Mb SVga (Orchid)
- . SVga Monitor Non-int.
- . Mid-Tower Case
- . 101 KeyBoard & Mouse

$1750.

JULY SPECIALS

1 Year Warranty

Friendly Services

Free Estimate

. IDE Cache w/ 512k...
$110

. SVGA S3 Accelerator...
$135

. Mylex EISA SCSI Cache
$295

. Peer - Peer NetWork Kits
2 Ethernet Card, Cables
2 Copy of NW SoftWare

*Novell Lite Kits $185

*Win WorkGroup $230

. GateWay Ether LC16 $65

. 330Mb SCSI $380
External (Mac ok) $475

. 287 Math Co $29

. 2MB/4MB AT RAM Brd.
$90/$145

. 1MBx9 SIMM Fr........ $30

. W/ SysTem Purchase
DOS 6.0 .... $45
Windows 3.1 ...... $49
Coreless Mouse w/
Win 3.1 .... $55

BOTTOM *PRICE*

- . 4Mb RAM
- . 1.2 & 1.44Mb Floppy Dr.
- . 105Mb IDE HDD
- . 1Mb SVga Card
- . SVga Monitor
- . MiniTower Case
- . 101 KeyBoard & Mouse
- . 2Serial, 1Par., 1Game

386sx 33MHz **$805**

386dx 40MHz/64k **$895**

486sx 25MHz/64k **$975**

NEW IBM 486SLC

- . 4Mb RAM, 128k Cache
- . 387 MATH CO.
- . 1.2 & 1.44Mb Floppy Dr.
- . 105Mb IDE HDD
- . 1Mb SVga & SVga Monitor
- . MiniTower Case
- . 101 KeyBoard & Mouse
- . 2Serial, 1Par., 1Game

50MHz ... $1090.

66MHz ... $1170.

IBM VESA LB ADD $175.

Cyrix 486 DLC

- . 4Mb RAM, 128k Cache
- . 1.2 & 1.44Mb Floppy Dr.
- . 105Mb IDE HDD
- . 1Mb SVga Card
- . SVga Monitor
- . MiniTower Case
- . 101 KeyBoard & Mouse
- . 2Serial, 1Par., 1Game

33MHz ... $899.

LanMark v2.0 105MHz

Mainboard

. VESA LB 486 256k (0 cpu) $155
. VESA & EISA 486 256k (0 cpu) $195
. ISA 486 33/66 MHz (0 cpu) $95
. 486sx 25/33 64k cpu $245/295
. IBM oem 486slc 128k 50MHz $375
. Cyrix 486dlc 64k, 33MHz $195
. 386dx 64k 40MHz $165
. 386sx 33MHz $105
. 286 12/16MHz $65/55

Fax/Modem

. Modem 2400b $35
. Fax / Modem 96/24 ....$55
. 14.4k Fax / Modem $175
. U S ROBOTICs 14.4k Fax/Modem
internal On Sale $180
external On Sale $215

Add On Card

. SVGA Card W/512k $40
. SVGA Trident 1MB $65
. ATI Wonder 1MB $65
. VESA Local Bus SVGA 1MB $115
. VESA Local Bus SVGA 2MB $145
. VLB Diamond / Orchid ....$Call
. Vesa LB IDE Cache W/ 1MB $185

Monitors

. SVGA 14" Monitor $220
. SVGA 14" Monitor(.28 DPI) $240
. SHAMROCK SVGA .28 N-INT.......$285
. 15" SHAMROCK NI,1280,FLAT $395
. 17, 20 inch Monitor.................$call

Tape Backup

. 250MB Drive by Achive $195
. Parallel External 250MB $465

Hard Drive

. Maxtor/Conner/ W.D 120Mb $185
. IDE 170MB $215
. IDE 210MB $235
. IDE 245MB $265
. IDE 340MB $355
. 420MB, 525MB 1GIB IDE .... call

MultiMedia Kits

. Multimedia Kits $385
CD-ROM, GLAXY PRO, SPK, 5 TITLEs
MPC & PHOTO CD COMPLIANT.
. Sound Card $60
Sound Blaster & Adlib Compt.

Controllers

. MFM / RLL 16Bit ....$40 / 50
. SCSI Future Domain OEM $75
. ESDI Controller $90

Case P.S & Mouse

. Mini Tower p.s $55
. MID - Size Tower p.s $80
. FULL - Size Tower p.s $115
. Desktop Case p.s $65
. Serial Mouse $15
. Agiler Trackball $29

HI-RES PRINTER

. **WINPRINTER $1350**
* 800 dpi
*Postcript, HP, 50 TrueType

. **1200-dpi Printer ... $2195**
* HP IV & WinJet 1200
* Camera-Ready Art Work
* PostScript-Language
Compability & 50 TrueTypes

Highest Quality
Major Brands
Call for Current
Low Price

SIMMs

IBM TYPE	C
1x9 -70/80/100 ...$	A
1x9 -80/100 9 Chip...$	L
4x9 -70/80 ....$	L
256x9 -80 ....$10	
APPLE SIMMs ....call	

72 PINs (36BITs)	
256kx36 -70/80/100..$	C
512Kx36 -70/80 ...$	A
1MBx36 -70/80 ...$	L
4MBx36 -70/80 ...$	L
16MBx36 70/80 ...$	

DRAMs

1MBx1 -100 .....$3.95
1MBx1 -80 ......$4.25
256x1 -100 .....$1.45
256x1 -80 ......$1.75

CPU (MICROPOCESSOR)

INTEL OPD 486SX 20 ...$325
INTEL 486DX/DX2 ...CALL
CYRIX 486DLC 33MHz (DIRECT UPGRADE 386DX) $99

NOTEBOOK / LAPTOP COMPUTER MEMORY

.IBM PS2 /PS1	C
.COMPAG, DEC, APPLE	A
.AST, NEC, DELL, TOSHIBA	L
.SUN WORKSTATIONs	L

LASER PRINTER MEMORY

HP LASER

HP IIP,IIP+,III,IIIP,IIID	1/2/3/4 .... $60/ 95/ 130/ 160
HPII / IID	2/4M BOARD $100/ 165
HPVI / VIM	2/4/8M SIMM $95/ 145/ 285
IIISI	4/8M $135/ 265
LASERJET FAX, DESKJET, HP PLOTTERs	............................$CALL

PANASONIC

KX4410 / 4430	1/2/3/4MB $85/ 115/ 145/ 175
KXP4420/4450/4451	1/2/3/4MB $75/ 105/ 135/ 165
KXP4455	2MB $125

OKI LASER

OL400	1/2MB $80/ 105
OL800/820	2/4MB $105/ 165
OL810	2/3/4MB $135/ 175/ 215

EPSON LASER

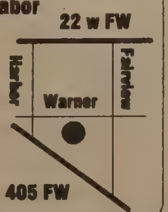
EPL6000	2/4MB $110/ 165
EPL7000	2/3MB $120/ 155
ACTION LASER II	2/3/4/5 ..... $105/ 135/ 165/ 190

OTHERs

APPLE LASER II/IINT/IINTX	4MB $145
NEC SILENTWRITER 90/290	1/2MB $85/125
NEC SILENTWRITER 95	2MB $100
KYOCERA F800/F800A/F800T	2/4MB $145/ 205
SHARP JX-9500/E/H/9700	1/1.5/2.5/4 .. $95/130/185/335
COMPAG PAGEMARQ 15 &20	1/4/8 ....$CALL
TI MICROLASER	1MB $55
CANON LBP 4/4 PLUS	1/2MB $85/ 115

All brannames are trademarks of their respective company

- . **1 Year Warranty Part & Labor**
- . 100% Compatability
- . Government, University and Corporate P.O Welcome
- . Visa Master Accepted
- . 15% Restock fee
- . Price & Availabily are Subject to Change w/o Notice.



COMPUTiX

# 1 Computer Upgrade

3490 W. Warner Ste. E
Santa Ana, CA. 92704
Ph. (714) 540-5131 Fax. (714) 540-5139
Hours: M-F 9:30AM To 6:30PM SAT 11:00 To 5PM

COMPUTER LIQUIDATION CENTER

WHOLESALE
UP TO 75% OFF SUGGESTED RETAIL

AST
Premium Exec
386SX/20 Notebook
Model 43V, w/40MB H.D.,
2Meg RAM $850

386SX/25 Notebook
Model 63V, w/60MB H.D.,4 Meg RAM $1195
386SX/25C Color Notebook
w/4Meg RAM, 60MB H.D. $1595

OTHER AST SYSTEMS:

WORKSTATION 386SX/16 w/2Meg RAM, 40MB H.D., VGA Board, 101 Keyboard	$395
w/4Meg RAM & 80MB H.D.	$520
386/33 w/4Meg RAM, 80MB H.D., 5 1/4" & 3 1/2" Floppy, VGA Board 101 Keyboard	$875
ADVANTAGE 486SX/20 2Meg RAM, 120MB H.D., 5 1/4", 3 1/2" Floppy, SVGA Board, SVGA Monitor, 101 Keyboard, Logitech Mouse	$1295
ADVANTAGE 486/20SX 4Meg RAM, 245MB H.D., 5 1/4", 3 1/2" Floppy, SVGA Board, SVGA Monitor, 101 Keyboard, Logitech Mouse	$1495
ADVANTAGE 486DX2/66 Model 345	CALL
ADVANTAGE 486DX/33 Model 248	CALL

You Can Upgrade Your 286 System to a 386 or 486!
CONVERT YOUR AST 286 TO 386/33MHz
w/4Meg RAM (Motherboard & CPU Board)ONLY $395

- Installation Is Not Included On AST Boards. $35/hr., Minimum 2 Hrs. & By Appointment.
- All PRICES & AVAILABILITY SUBJECT TO CHANGE W/OUT NOTICE.
- Prices Are Exclusive To The Ad From The Month That The Ad Appears In MicroTimes. The Ad Will Not Be Effective For Any Previous Or Future Issue Of MicroTimes.

FOR OTHER AST PARTS PLEASE CALL!
IF YOU ARE INQUIRING ABOUT ANY AST BOARDS PLEASE ASK BY PART NO.

MISCELLANEOUS

ATI VIDEO GRAPHICS CARD/BULK W/1 Meg RAM, 1024x768	
Qty. 1	$75
Qty. 10+	$65
Qty. 100+	$55
80MB IDE, HD For Notebook	$175
60MB IDE, HD For Notebook	$105
40MB IDE HD	$95
320MB ESDI Full HT-Maxtor (Model XT-4380E)	$250
330MB SCSI Drive-Seagate (ST2383N)	$275
2GB Tape Backup-Archive	$695
FAX/MODEM 2400/9600 [illegible]	
Qty. 1	$29
Qty. 50+	$19
WinFax	$10
DOS 4.0	$10
3M TAPES: DC 600A	$12
DC 2000	$10
DC 1000	$6.50
AMI Pro Windows Version 2.0	$35
AST RAMPage+ 286 w/512K	$85
AMI Pro Windows Version 3.0	$60
AST Notebook Fax/Modem Data w/MNPS Fax/Send	
Qty. 1	$75
Qty. 10+	$50
AST Battery Pack For Notebook	$35
AST AC Power For Notebook	$35
Calcomp Drawing Board	$195
AST EGA Monitor-Refurbished	$95

LOGITECH PRODUCTS

SCANNERS:
Logitech Hand Held Scanners Gray Scale Model 32 w/OCR Scanman Model 32, 400DPI,

MOUSES:

Logitech 2 Button Hi-Resolution Curve, 400DPI, 100% Microsoft Compatible (INCLUDES Logitech Drivers For DOS & Windows)	$15
Microsoft Mouse For PS/2	$55
IBM	$55
MOUSEMAN:	
Serial	$45
PS2	$35
C9 Hi-Resolution Serial or Bus	$65

YOUR #1 AST SPARE PARTS DISTRIBUTOR IN SOUTHERN CALIFORNIA

UP TO 75% OFF SUGGESTED RETAIL

5332 Industrial Dr.
Huntington Beach, CA 92649
(714) 895-5802
FAX: (714) 897-9498

HOURS:
M–F 9 a.m. to 5 p.m.
Some Sat.'s 10a.m. to 3p.m.
And @ the Computer Swapmeet nearest you!
Prices & Availability Subject To Change.

Novell Classes

MT. SIERRA CAREER COLLEGE

" The Careers of the 90's"

Take the Novell Classes You Need to Become Novell Certified

Features	Benefits
✔ 3-9 Month Programs	✔ Intensive & Comprehensive
✔ Small Class Size	✔ Personal Attention
✔ Morning, Afternoon, Evening & Sat. Classes	✔ Discounts for Morning Classes
✔ Certified Instructors	✔ Certified Novell Instructors
✔ Payment Plans	✔ New Low Tuition Rates

Microsoft Training Channel Alliance
NOVELL
"Novell Education Academic Partner"

Mt. Sierra Career College
• Sierra Educational Group •
1420 El Centro St., So. Pasadena, CA 91030

(800) 240-2500
(818) 403-1900

Calendar Of Events continued

AUGUST

August 1 Intro To Windows Class. S. Pasadena. Classes Unlimited. Call: (818)441-5977.

August 1 Lotus 1-2-3 Rel. 2.3 Class. Monrovia. The Organizers. Call: (818)303-3311.

August 6 Intro To Macintosh Class. S. Pasadena. Classes Unlimited. Call: (818)441-5977.

August 7 Microsoft Excel 4.0 Class. Monrovia. The Organizers. Call: (818)303-3311.

August 8 Lotus 1-2-3 Rel. 2.3: Macros Class. Monrovia. The Organizers. Call: (818)303-3311.

August 12–16 Intro To Adobe Photoshop Course. Los Angeles. Dept. of the Arts, UCLA Extension. Call: (310)206-1422.

August 15 Newsletters On The Mac Course. Los Angeles. Dept. of the Arts, UCLA Extension. Call: (310)206-1422.

August 15 Word For Windows 2.0 Class. Monrovia. The Organizers. Call: (818)303-3311.

August 15 WordPerfect For Windows Class. S. Pasadena. Classes Unlimited. Call: (818)441-5977.

August 16–18 Software Safety: Principles And Practice Short Course. Los Angeles. UCLA Extension. Call: (310)825-1047.

August 20–September 3 Intro To Mac Course. Los Angeles. Dept. of the Arts, UCLA Extension. Call: (310)206-1422.

August 21 PageMaker On Mac Class. S. Pasadena. Classes Unlimited. Call: (818)441-5977.

August 22 Photo Retouching With Photoshop Course. Los Angeles. Dept. of the Arts, UCLA Extension. Call: (310)206-1422.

August 23–26 Applying Quality Management Principles To Software Development Short Course. Los Angeles. UCLA Extension. Call: (310)825-1047.

August 29 Special Effects In Photoshop Course. Los Angeles. Dept. of the Arts, UCLA Extension. Call: (310)206-1422.

September 8 High-Speed Windows Applications Short Course. Los Angeles. UCLA Extension. Call: (310)825-1047.

September 8–10 User-Oriented Interface Design: Process And Product Short Course. Los Angeles. UCLA Extension. Call: (310)825-1047.

September 9–13 Intro To Aldus Freehand Course. Los Angeles. Dept. of the Arts, UCLA Extension. Call: (310)206-1422.

September 10 Intro To Lotus 1-2-3 Class. S. Pasadena. Classes Unlimited. Call: (818)441-5977.

September 14–17 Object-Oriented, Distributed And Intelligent Database Systems Short Course. Los Angeles. UCLA Extension. Call: (310)825-1047.

September 17 InfoTech Workshop: Graphics, Text, Voice, And Motion. Monrovia. LA Chapter of ASIS. Call: (818)356-6704.

September 20–23 An Intro To C++ Short Course. Los Angeles. UCLA Extension. Call: (310)825-1047.

September 22–24 User-Interface Design For Interactive Multimedia Systems Short Course. Los Angeles. UCLA Extension. Call: (310)825-1047.

September 28–30 Software Metrics Short Course. Los Angeles. UCLA Extension. Call: (310)825-1047.

TAMARACK SYSTEM INTEGRATION

WE DELIVER WHAT'S IMPORTANT TO YOU... WHERE PRECISION, RELIABILITY AND PERFORMANCE EXCEL.

TAMARACK

386SX-40MHz

- 386SX-40 CPU w/ AMI BIOS
- 4MB RAM
- Dual FD/HD Controller
- 2 Serial, Parallel, Game
- 1.2 & 1.44 Floppy Drives
- 80MB HDD, 17ms
- Super VGA Card
- Shamrock 1024 x 768 .28 Monitor
- Desktop Case
- 101-Key Enhanced Keyboard

$899*

***Multimedia Upgrade $329**

9600/2400 Fax/Modem $55

PROSTAR

386DX-40MHz

- 386DX-40 CPU w/AMI BIOS
- 4MB RAM, 128K Cache
- Dual FD/HD Controller
- 2 Serial, Parallel, Game
- 1.2 & 1.44 Floppy Drives
- 120MB HDD, 17ms
- Super VGA Card
- Shamrock 1024 x 768 .28 Monitor
- Mini Digital Tower or Desktop Case
- 101-Key Enhanced Keyboard

$969*

***Multimedia Upgrade $329**

9600/2400 Fax/Modem $55

WIN ULTRA

486DX-33MHz

- 486DLC-33 CPU w/AMI BIOS
- 4MB RAM, 256K Cache
- Dual FD/HD Controller
- 2 Serial, Parallel, Game
- 1.2 & 1.44 Floppy Drives
- 170MB HDD, 17ms
- Diamond Speedstar 24X VGA Card
- Display up to 16.7 Million Colors
- Shamrock 14" Non-Interlaced Monitor
- Midsize Digital Tower Case
- 101-Key Enhanced Keyboard

$1299*

***Multimedia Upgrade $329**

9600/2400 Fax/Modem $55

VESA VLB PRO

486DX-33MHz

- 486DX-33 Intel CPU w/AMI BIOS
- OverDrive Socket for Future Upgrade
- Dual Master Local Bus Motherboard
- 256K Cache SRAM on Board
- 4MB RAM, Expandable to 32MB
- 32 Bit Local Bus IDE Dual FD/HD Controller
- 2 Serial, Parallel, Game Ports
- 1.2 & 1.44 Floppy Drives
- 245MB Maxtor HDD, 14ms
- 32 Bit Local Bus Cirrus Logic Graphic Card
- Displays up to 16.7 Million Colors
- Shamrock 14" Non-Interlaced Monitor
- Full Size Tower Case
- 101-Key Enhanced Keyboard

$1559*

Upgrades:

- **Diamond Viper VLB w/2MB VRAM..................................$319**
- **Toshiba 17" VESA Standard Monitor 1280 x 1024 Res...$549**
- **Multimedia Upgrade $329**
- **9600/2400 Fax/Modem...........$55**

VESA VLB PRO

486DX-50MHz

- 486DX-50 Intel CPU w/AMI BIOS
- OverDrive Socket for Future Upgrade
- Dual Master Local Bus Motherboard
- 256K Cache SRAM on Board
- 4MB RAM, Expandable to 32MB
- 32 Bit Local Bus IDE Dual FD/HD Controller
- 2 Serial, Parallel, Game Ports
- 1.2 & 1.44 Floppy Drives
- 245MB Maxtor HDD, 14ms
- 32 Bit Local Bus Cirrus Logic Graphic Card
- Displays up to 16.7 Million Colors
- Shamrock 14" Non-Interlaced Monitor
- Full Size Tower Case
- 101-Key Enhanced Keyboard

$1699*

Upgrades:

- **Diamond Viper VLB w/2MB VRAM.................................$319**
- **Toshiba 17" VESA Standard Monitor 1280 x 1024 Res...$549**
- **Multimedia Upgrade $329**
- **9600/2400 Fax/Modem...........$55**

VESA VLB PRO

486DX2-66MHz

- 486DX2-66 Intel CPU w/AMI BIOS
- OverDrive Socket for Future Upgrade
- Dual Master Local Bus Motherboard
- 256K Cache SRAM on Board
- 4MB RAM, Expandable to 32 MB
- 32 Bit Local Bus IDE Dual FD/HD Controller
- 2 Serial, Parallel, Game Ports
- 1.2 & 1.44 Floppy Drives
- 245MB Maxtor HDD, 14ms
- 32 Bit Local Bus Cirrus Logic Graphic Card
- Displays up to 16.7 Million Colors
- Shamrock 14" Non-Interlaced Monitor
- Full Size Tower Case
- 101-Key Enhanced Keyboard

$1779*

Upgrades:

- **Diamond Viper VLB w/2MB VRAM.................................$319**
- **Toshiba 17" VESA Standard Monitor 1280 x 1024 Res...$549**
- **Multimedia Upgrade $329**
- **15" Digital Control VESA Monitor 1280x1024............$250**
- **9600/2400 Fax/Modem...........$55**

SERVICE:
EVERY SYSTEM IS BACKED BY...

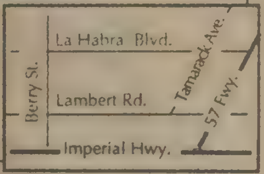
- 7 Day money-back guarantee.
- Lifetime technical support.
- On-site service available.
- Free hi-resolution 880dpi mouse.
- Hard drive capacity can be increased by software compression.
- 72 hours dynamic burn-in test on all systems.

TAMARACK SYSTEM INTEGRATION

OPEN 7 DAYS 9:00 AM-6:00 PM

Tel: (714) 257-0341 • Fax: (714) 257-0433

411 W. LAMBERT ROAD, SUITE 404
BREA, CA 92621
IN CITY OF INDUSTRY CALL: (818) 330-3114



USM

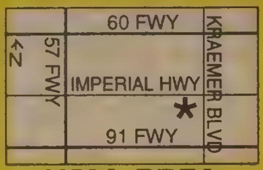
US MACH

Incorporated 1983

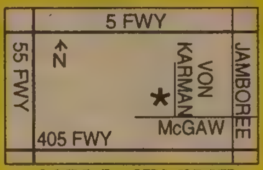
VISA HOURS: M-F 9-6 • Sat 10-5 MasterCard

Price and availability subject to change.
No surcharge for credit cards.

CELEBRATING OUR 10 YEAR ANNIVERSARY



USM BREA
2500 Imperial Hwy., Unit 132
714/255-0113
FAX: 714/255-0115



USM IRVINE
17145 Von Karman Ave., Ste. 109
714/252-8335
FAX: 714/252-8354

Our No. California Locations:
USM Sunnyvale
408/738-8291 FAX: 408/738-8299
USM Palo Alto
415/325-0651 FAX: 415/325-2459
USM Fremont
510/623-9040 FAX: 510/623-7592
USM So. San Francisco
415/952-5885 FAX: 415/266-9134
USM Santa Clara
408/980-0603 FAX: 408/980-0604

VISIT ONE OF OUR SEVEN CALIFORNIA STORES

American Megatrends

Enterprise III
EISA VESA Local Bus

- Intel 486 CPU
- 16MB, 70ns RAM exp. to 256MB
- 256K High Speed Cache Memory
- Maxtor 345MB, 15ms hard disk
- TEAC 1.2MB & 1.44MB Floppies
- Orchid or Quest 32bit VLB IDE controller
- Diamond Viper 32bit VLB 2MB VRAM Card
- Nec 3FGe 15" Non-Int. SVGA Monitor
- Northgate Omnikey 101 keyboard
- Diamond Mid tower case with 250W
- MS DOS 6.0
- MS Windows 3.1
- Full burn-in
- 1 year parts & labor warranty

2 EISA/VLB Six EISA Bus Mastering Slots

Diamond Viper 2MB VRAM

486DX2-66 EISA/VLB	$3550
486DX-33 EISA/VLB	$3250

Factory Authorized Distributor

Pentium Ready ZIF Socket

Windows 3.1 DOS 6.0 included

NEC 3FGe 15" Monitor

intel inside

American Megatrends

SuperVoyager
ISA VESA Local Bus

- Intel 486 CPU
- 8MB, 70ns RAM exp. to 64MB
- 256K Cache Memory
- Maxtor 245MB IDE, 15ms
- TEAC 1.2MB & 1.44MB Floppies
- Built-in IDE IO (2 serial 16550 UART & 1 parallel ports)
- Diamond Stealth Pro 32bit 1MB VRAM SVGA card
- NEC 3FGe 15" Non-Int. monitor
- Northgate Omnikey 101 NI keyboard
- Diamond Mid tower with 250W
- MS DOS 6.0
- MS Windows 3.1
- Full burn-in
- 1 year parts & labor warranty

Two Bus Mastering VLB Slots

Two Serial 16550 UARTS

Diamond Stealth 1MB VRAM

486DX2-66 ISA/VLB	$3050
486DX-33 ISA/VLB	$2750

ORCHID

Factory Authorized Distributor

CALL NOW FOR SPECIAL PRICES!!

US MACH SYSTEMS PERIPHERAL SUPER SALE!!

SYSTEM BOARDS

US MACH SUPERBOARDS

486DX2-66, EISA/VLB, 256k	$765
486DX-33, EISA/VLB, 256k	525
486DX2-66, VLB, 256k	665
486DX-33, VLB, 256k	435
486DX2-66, 256k	650
486DX-50/33 256k	560/420
486SX-25, 256k	250
386DX-40/33 128k	175/175
386SX-33	126

STORAGE DEVICES

HARD DRIVES

WESTERN DIGITAL

209MB IDE AC2200 13ms	228
340MB IDE AC2340 13ms	339
425MB IDE AC2420 13ms	478

CONNER

120MB IDE CP30104 17ms	$172
170MB IDE CP30174 17ms	200
210MB IDE CP30204 12ms	227
250MB IDE CP30254 14ms	231
340MB IDE CP30304 17ms	328
540MB IDE CP30544 17ms	677

Maxtor®

130MB IDE MX7120A 15ms	$192
213MB IDE MX7213A 15ms	221
245MB IDE MX7245A 15ms	241
340MB IDE MXT345A 14ms	328
535MB IDE LXT535A 13ms	865
1.2GB Panther PO-12S 13ms	1015
1.2GB Magic MXT1240S 8.5ms	1177
1.7GB Panther PO-17S 13ms	1288

Quantum

127MB IDE Prodrive ELS 17ms	$220
240MB IDE Prodrive ELS 17ms	330

HARD CARDS

127MB IDE Hardcard EZ	$341
240MB IDE Hardcard EZ	568

TOSHIBA

877MB Fast SCSI2 MK438FB	$954
1.2G Fast SCSI2 MK538FB	1099
2.88 Floppy Drive	66

TAPE BACKUP

COLORADO MEMORY SYSTEMS INC.

DJ10 120MB	$144
DJ20 240MB	200
JT10 120MB para. pt	350
JT20 250MB para. pt	417
ARCHIVE 250MB+ tape	175
MAYNSTREAM 600C 600MB SCSI w/cont.	1576
MAYNSTREAM DAT 2GB SCSI w/cont.	2811
MAYNSTREAM 400DAT 4GB SCSI w/cont.	3783

REMOVABLE MEDIA DRIVE

PUMA 88MB Ext w/Par. port adapt	$503
SYDOS 88MB Int drive w/SQ800 Cart.	437
SYQUEST 88MB Cartridge SQ800	107
Enhanced Perf. 16bit host adapter DOS/Win.	156
SP-Kit 8bit Standard Adapter w/SW	83

CD ROM/OPTICAL DRIVE

SONY CDU-535 Int. w/intfc	$325
SONY CDU-541 Int. SCSI	421
TOSHIBA TXM 3401 Int. 599MB	461
TOSHIBA TXM 3401 Ext. 599MB	583
NEC CDR-84 Int. 650MB SCSI2 280ms Photo	560
NEC CRD-74 Ext. 650MB SCSI2 280ms Photo	625

ADD-ON CARDS

GRAPHIC CARDS

TRIDENT SVGA 1MB	$60
CIRRUS LOGIC Window Accel. 1MB	60
CIRRUS LOGIC 24bit Window Accel.	75
DIAMOND Speedstar Pro ISA/VLB	115
DIAMOND Stealth 24 1MB	153
DIAMOND Stealth PRO ISA/VLB	244
DIAMOND Viper VLB 2MB	400
DIAMOND Viper 2MB Upgrade Kit	111
ORCHID Fahrenheit 1280 Plus	150
ORCHID P9000 3MB	425
ORCHID Fahrenheit VA VLB	210
ATI MACH 32 Ultra Pro VLB 1MB	339
ATI MACH 32 Ultra Pro VLB 2MB	406
ATI MACH 32 Ultra Pro ISA 1MB	389

Factory
Authorized Distributor

MICRONICS

EISA VESA Local Bus

- Intel 486 CPU
- 16MB, 70ns RAM, exp. to 64MB
- 256k Hi Speed Cache Memory
- Maxtor 340MB IDE, 13ms
- TEAC 1.2 & 1.44 floppies
- On-board IDE, 2S, 1P IO
- ATI Mach 32 32bit VLB 2MB Card
- NEC 3FGe 15" Non-int. SVGA
- Northgate Omnikey 101 keyboard
- Diamond Mid tower case 250W
- MS DOS 6.0
- Windows 3.1
- Full system burn-in
- 1 year parts & labor warranty

2 EISA/VLB
6 EISA
Bus Mastering
Slots

ATI
Mach32
2MB VRAM

486DX2-66 EISA/VLB . $3450
486DX-33 EISA/VLB ... $3150

Pentium
Ready LIF
Socket

DOS 6.0
&
Windows
3.1
included

NEC 3FGe
15"
Monitor

intel inside

MICRONICS

ISA VESA Local Bus

- Intel 486 CPU
- 8MB, 70ns RAM, exp. to 64MB
- 256k Hi Speed Cache Memory
- Maxtor 245MB IDE, 13ms
- TEAC 1.2 & 1.44 floppies
- Orchid or Quest 32bit VLB IDE Controller
- Diamond Stealth 32bit VLB 1MB VRAM Card
- NEC 3FGe 15" Non-int. SVGA
- Northgate Omnikey 101 keyboard
- Diamond Mid tower case 250W
- MS DOS 6.0
- Windows 3.1
- Full system burn-in

Two Bus
Mastering
VLB Slots

Diamond
StealthPro
1MB VRAM

486DX2-66 ISA/VLB $2950
486DX-33 ISA/VLB....... $2650

USMach System *Emerald* Series

VESA Local Bus

intel inside

- Intel 486 CPU • 256k Hi Spd Cache Mem.
- 4MB, 70ns RAM, exp. to 32MB
- Maxtor 213MB Hard Disk
- TEAC 1.2MB & 1.44MB Floppies
- 32bit VLB IDE Controller, 2S, 1P, 1G
- Stand. Tech. 72Hz Non-Int. Monitor
- 32bit Diamond Speedstar Pro 1MB
- 101 Enhanced Keyboard
- Mid Tower Case • Full system burn-in
- One year Warranty - parts & labor

Two Bus
Mastering
VLB Slots

486DX2-66 ISA/VLB ... $1895
486DX-33 ISA/VLB $1595
386DX-40 ISA................. $995

ISA Bus

- Intel 486 CPU • 256k Hi Spd Cache Mem.
- 4MB, 70ns RAM, exp. to 32MB
- Conner 170MB Hard Disk
- TEAC1.2MB & 1.44MB Floppies
- 16bit IDE Controller,2S, 1P, 1G
- SVGA Monitor 1024x768 .28 dp
- 16bit Video Accel. 1MB DRAM
- 101 Enhanced Keyboard
- Mini Tower Case • Full system burn-in
- One Year Warranty - parts & labor

486DX2-66 ISA.......... $1595
486DX-33 ISA............ $1295
486DX-50 ISA $1445

July Super Deals

(While Supplies Last)

MAXTOR 245MB 15ms	$241
MAXTOR 345MB 14ms	328
ARCHIVE Tape Backup 250MB + tape	175
USROBOTICS 14.4 Fax/Modem int.	177
USROBOTICS 14.4 Fax/Modem ext.	199
USMACH Superboard 486DX-33 VLB	435

Upgrading your computer system? Call USMach!

SCSI CONTROLLER

ADAPTEC 1522 BK SCSI adapter kit	$140
ADAPTEC 1522 BK+ SCSI adapter kit	194
ADAPTEC 1542 CK SCSI adapter kit	244
ADAPTEC 1542 CK+ SCSI adapter kit	306
ADAPTEC 1742 EISA SCSI adapter kit	400
ULTRASTOR 34F	272
ULTRASTOR 24F/14F EISA	360/210
ULTRASTOR 15C IDE Caching OMB	177
AMI FastDisk SCSI 4MB	596

SUPER I/O CARD

QUICKPATH 13 ports w/4 16550 UARTS	$120
BOCA RESEARCH 4S/2P 16550 UARTS	95
STB DSP/550 2S/1P w/16550 UARTS	50
STB 4-COM 16bit w/16550 UARTS	110

NETWORK CARD

3COM ETHERLINK III / II-16	$131/171
SMC Ethercard + Elite 16T	118
INTEL Ether Express 16 (self-config.)	127
INTEL Ether Express EISA COAX	428
D'LINK Ethernet 16bit	85

FAX/MODEM

intel	Satisfaxtion 14.4 Mod. 400 Int.	$414
	Satisfaxtion 14.4 Mod. 400 Ext.	454
	Satisfaxtion 96/24 Mod. 100	103
	Satisfaxtion 96/24 Mod. 200	306
USRobotics™	Sportster 14.4 Internal	177
	Courier 14.4 External	512
	Courier 14.4 Internal	480

COMPLETE PC Turbo + 96/14.4 Int./Ext.	280
NUVOTEL 14.4 Internal	173
NUVOTEL 9600 External	156
NUVOTEL 96/24 Fax/Modem Internal	55

MONITORS

MAG MX15H 15" NI .28	$550
MAG MX17H 17" NI .28	985
NEC 3FGe / 4FGe	595/720
NEC 5FGe	1111
Viewsonic 4E 14" I. .28	294
Viewsonic 6E 14" NI. .28	320
Viewsonic 5E 14" NI. .28 72Hz	383
Viewsonic 6FS 15" NI .28 Flat Screen	516
Viewsonic 7 17" NI .28	885
Viewsonic 15 15" NI. .28 76Hz	550
Viewsonic 17 17" NI. .28 76Hz	1145
Viewsonic 20 20" NI. .28 76Hz	1765
STANDARD TECH. 17" NI .28	660
STANDARD TECH. 14" NI .28	306
STANDARD TECH. 14" NI .28 72Hz	295
STANDARD TECH. 14" I .28	275

MULTI-MEDIA

CREATIVE
CREATIVE LABS, INC.

Business 16bit Upgrade Kit	$623
Discovery 16bit Upgrade Kit	460
Edutainment 16bit Upgrade Kit	525
CD ROM Upgrade Kit	381
SOUNDBLASTER 16 ASP	226
SOUNDBLASTER Pro Deluxe	129
SOUNDBLASTER Deluxe	85
VIDEO BLASTER	336

MEDIA VISION

FUSION CD 16	495
PRO-AUDIO Spectrum 16	180
THUNDERBOARD for Windows	103

MISCELLANEOUS

MATH CO-PROCESSORS

ULSI 387DX 33/ 387DX 40	$75/90
ULSI 387SX 25/ 387SX 33	71/76

MICE

LOGITECH Trakman II Serial	79
LOGITECH Trakman Portable	99
LOGITECH Combo Mouseman	66
MICROSOFT Bus/Serial	85/80

UPS - Stand-by Power Supply

Back-UPS 600	$268
Smart-UPS 600/900	402/582
TRIPP-LITE Omni 450/750LAN	282/448
TRIPP-LITE Omni 1250LAN	649
TRIPP-LITE Omni 2000LAN	1051

KEYBOARDS

US MACH 101 Enh./Click	$25/30
FOCUS 2001	45
MAXISWITCH 101	45
KEYTRONICS 101	45
NORTHGATE 101/102	79/79
NORTHGATE ULTRA	109

PRINTERS

CITIZEN 200GX	$161
CITIZEN GSX-240 (Quiet)	306

ACER

Motherboards & More!

- ◇ **ACER I-5 VESA LB Motherboard** with Intel **"ZIF"** OverDrive Ready socket upgradeable to P24T and Cyrix M6 (Pentium emulation), supports Intel 486-66/50/33/25 and **AMD 486DX-40**, FCC "B" approved.
  [illegible]
- ◇ **ACER I-2 ISA Universal Motherboard** FCC "B" approved; Novell certification #F1538
  [illegible]
- ◇ **ACER I-3 Cyrix 486DLC Motherboard** FCC "B" approved
  Low Cost 486 Solution
- ◇ **ACER E-3 EISA VESA LB Motherboard** FCC "B" approved
  [illegible] VESA *For Faster Performance*
- ◇ Rock Bottom Prices
- ◇ Wide Selection of Components. . . Motherboards, Video Cards, Caching Cards, FDD's, Modems, and CPU's
- ◇ We help you to build a FCC "B" approved "bare bone" at competitive prices.

Frontier Industrial, Inc.

661 Brea Canyon Rd. #5
Walnut, CA 91789
(909) 594-7420
Fax:
(909) 595-8250

ACER®

ACER®

Acer is a trademark of Acer Corporation, Intel is a trademark of Intel Corporation, AMD is a trademark of AMD Corporation. All other brands and product names are trademarks or registered trademarks of their respective companies.

USER GROUP NETWORK

BULLETIN BOARDS

MULTI-ZONE

Atlantis, The Lost BBS. (714)256-1360, (818)859-6300. 2400/9600/14,400. Multiline chat, games, travel, scuba, forums, SIGs. Grand opening specials. Sysop: Ron DeRuyter. [Exp. #111.]

Aussie BBS. (818)337-9701, (909)598-2502. 8-N-1. 10 lines, chat, games, highest quality adult GIFs, 18,000 files, and more. Sysop: Mike Szabados. [Exp. #112.]

Barter Exchange. (805)373-3871; (818)999-1829, 879-8547, 787-6408, 557-0432. Multiline BBS, 1GB adult file library, multimember chat arena. Age 21 and over. [Exp. #113.]

BaudTown BBS. (213)294-7791, (805)259-5442, (805)584-9680, (818)893-0340, and others. 24 hrs. 32 conference lines, chat, matchmaker, databases, library, and more. [Exp. #112.]

CPI BBS.(213)566-3004, (310)366-7472, (818)281-5760. 8-N-1, 24 hrs., 1200/2400/9600/14,400. 10 lines, nationwide mail, echo conferences, matchmaker, multiuser games, files, and more. All ages welcome. Free trial. [Exp. #112.]

Easy Street. (714)778-5473; (904)590-4307. 14,400. 7GB of files, live multi-chat, interactive games. Access numbers throughout Orange County. [Exp. #113.]

Entertainment & Consumers Network. (310)204-6007; (818)784-3039, 760-3828, 888-3942. 8-N-1, 24 hrs., 300/1200/2400. New Internet mail and newsgroup services available w/free trial memberships. [Exp. #113.]

KBBS Los Angeles. (213)725-3047, (310)558-0145, (818)886-0872. 8-N-1, 24 hrs., 300/1200/2400/9600/14,400. Multiplayer games, 2.5GB of shareware, Internet, global group chat. Free trial [Exp. #113.]

Modem Butterfly. (213)264-6900, (310)767-1010, (714)828-5500, (805)581-0700, (818)798-9900, 842-6900, 887-7900. 8-N-1, 1200/2400/9600. Instant access, 1GB, SIGs, 33 conference lines, events, trivia contests. Sysop: Karyn Zoldan. [Exp. #111.]

The Motherboard. (213)656-9339, (310)421-3767, (714)521-1175, (805)520-2300, (805)287-5957, (818)781-7834. 8-N-1, 24 hrs., 300/1200/2400. 32 lines, multiuser/group & private chats, 2GB, email, public forums, library, and matching. More local numbers available online. Sysop: Celeste Clark. [Exp. #113.]

Tycho's Computer Express. (310)493-6402, (714)638-8149. 8-N-1, 24 hrs., 1200/2400. Private/group chats, msgs, mail, parties/socials, six lines. Free. Sysop: Adam Judd. [Exp. #113.]

VVBBS-Valley Village BBS. (213)628-9640, (310)276-9970, (818)763-8160. 8-N-1, 24hr. 40+ new files every day, great games, friendly sysop! Free Trial. [Exp. #112.]

The Westside. (213)933-4050, (714)663-9531 90 lines, chat, online games, GIFs, animations, shareware, social events, and more. Free 25- call Trial for mentioning *MicroTimes*. [Exp. #113.]

213

The Career Network. (213)629-1472. 5 pm–1:30 am, 300/1200/2400. Job hunting. Your resume can reach over 250 major employers each month. Sysop: Steven McCormick. [Exp. #112.]

LAAUGLine. (213)387-1002. 24 hrs., 300/1200/2400. Amiga. Sysop: Thom Irwin. [Exp. #112.]

US Pompeii/InfoTran Networks. (213)878-2801. 8-N-1, 24 hrs., Local and int'l BBS, 32 lines, chats, pubs, games. One month free trial. Sysop: Zippy Manus. [Exp. #112.]

Valley Computer Club (VCC). (213)227-9684. 8-N-1, 1200/2400/9600. Sysop: Wes Arnold. [Exp. #113.]

310

Close Encounters. (310)947-3997, 902-9538. 24 hrs., 300/1200/2400. Local to many 714, 213, and 818 areas. Multiline social interaction system. [Exp. #112.]

Compu-Net! BBS. (310)822-0038. So. Cal's largest file and msg board. CD-ROMs, dating, adult, Windows, IBM, UFO, Mac, and more. [Exp. #113.]

Ground Zero BBS. (310)430-0079. 300–16,800. 3 lines, Windows, OS/2, 39,000 files, QWK mail, RIME and U'NI networks. Sysop: Rick Edwards. [Exp. #112.]

LA Computer Society BBS. (310)827-8171. 8-N-1, 24 hrs., 2400 only. Full access to Computer Society members ($36/yr), message bases, SIGs, and club information. Sysop: Frances Ames. [Exp. #112.]

LAMG (Los Angeles Macintosh Group). (310)559-MACS. 8-N-1, 24 hrs, 300/1200/2400/9600/14,400. So. Cal's busiest all Mac multiline BBS. 300MB of Mac news, reviews, rumors, and more. [Exp. #112.]

Moroni BBS. (310)392-3981. 24 hrs., 300/1200/2400/9600. LDS-oriented, 650MB shareware. Free. [Exp. #112.]

the original off off-broadway BBS. (310)453-7038. 8-N-1, 24 hrs., 300/1200/2400/9600. Non-subscription, text files/messages only. Using MajorBBS software and CompuCom Speedmodem. Sysop: James Gossage. [Exp. #111.]

PS&A Beach Cities BBS. (310)374-9994. 14,400. DOS, Windows, OS/2, Mac, Amiga, DESQview. No fees. Sysop: Paul Swanno. [Exp. #113.]

Skeleton Crew BBS. (310)306-5134, 306-9775. 24 hrs., 57,600. Shareware, Public Domain, adult GIFs, games, Intelec, MetroNet, RoseNet, and Science Factor. Sub. plans available. Sysop: Bruce Vigil. [Exp. #112.]

South Bay Apple Macintosh Users Group (SBAMUG). (310)792-8083. First class, GUI. [Exp. #112.]

Starlight BBS. (310)830-5798. Net mail, Paradox 4.0, WIndows, OS/2, C++ Program-

MODEM BUTTERFLY'S CONNECTION IS NOT YOUR AVERAGE BBS

BEFORE MBC AFTER

OUTRAGEOUS INTELLIGENT

INTERACTION! DOWNLOADS! EVENTS!

INSTANT ACCESS! USE ANY MODEM!

310-767-1010 818-798-9900 714-828-5500
213-264-6900 805-581-0700 818-787-6900

UNIQUE TOUCH TONE VOICE 310-657-7800 818-558-6800 FREE CODE:
BBS 310-842-7800 818-345-7800 9800

Windows OnLine

MAIN MENU

Files Windows NT OS/2 DOS Mail Bulletins News Magazines

Publisher of: WinOnLine Review Shareware Edition (510) 736-8343 BBS

"One Stop Shopping for Windows Shareware"

18 Lines/Nodes!
Over 150 file areas!
200,000 Messages!

FREE Windows On-Line Magazines
FREE download area for first time callers
Over 650 eMail Special Topic Forums
1,100 OS/2 Files - 18,000 DOS Files
9,000 Windows Files

510-736-8343 BBS

VISA/MasterCard/AMEX Accepted

NO ON-LINE HOURLY CHARGES - NO BUSY SIGNALS 7 GIGS

BBS Spotlight

By John Wolcott

Dropping In On The Drop Zone!

If I ever said that getting a full set of features on a BBS would require a subscription, I stand corrected. Although such boards are few and far between, this month's BBS Spotlight features a BBS that offers all of the amenities and does not require a subscription.

Hold onto your hats, folks, the Drop Zone! BBS is truly a find. Standard access to the system is free, with extended usage time and a greater number of downloads allowed for a nominal donation. Even without a donation, full system access is yours for the asking.

The Drop Zone! runs on ZYXEL model U1496E+ V.42/Vbis modems offering 300 to 19,200 baud. They are using Wildcat version 3.60M software that really enhances the appearance of the board. With auto baud detect and ANSI graphics detection built into the software, you'll log right on with terrific screen displays. They offer multiple lines into the BBS from the 714 and 909 area codes.

You'll start with giving your name and choosing a password; then you'll immediately be presented with the BBS System Rules. The BBS Rules bulletin offers tips on efficient BBS usage, as well as the regular common-sense information for system navigation. They also notify you up front that this BBS offers explicit adult-oriented material, and advise that if this offends you, this BBS might not be for you.

Next, you're greeted with a questionnaire requiring some basic information about yourself, your computer, and system parameters you'd prefer. You'll also get information about time and download privileges for the donating and nondonating users.

The main menu features a system bulletin sub-menu, a "Doors" sub-menu, files for download, joining conferences, a message sub-menu, sysop paging, talking to other nodes (other users currently connected), a users list, a list of who is currently online, and system help files. Displayed at the bottom of the main menu is information with the date, time, how long you've been on the system, how much time you have left, and the time and date of your last call.

The bulletin sub-menu takes you to a list of system bulletins. The bulletins offered are Rules and Regulations, top message writers, an Echo Mail summary chart, The Drop Zone! usage statistics, a chart of your personal system settings and usage, top uploaders and downloaders, user birthdays, Time Door statistics, and top players in the "Doors" game, "The Pit." It will also tell you which, if any, bulletins have been updated since your last call.

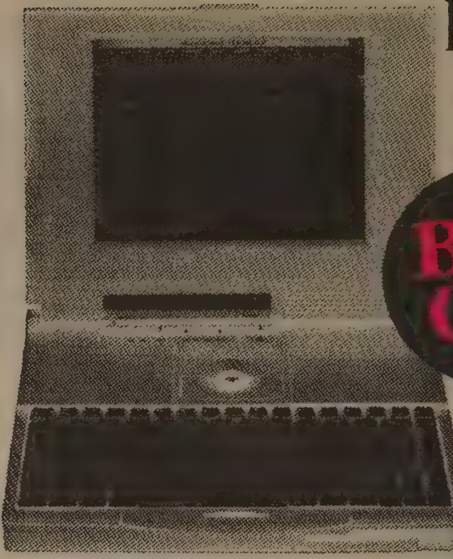
The "Doors" menu greets you with online games that anyone is sure to find entertaining. Games here include The Pit and Time Bank. The Pit will take you into a world of its own. The Time Bank is an interesting twist to adding (or losing) system time privileges with several games of chance. If you choose to gamble your system time, you may do so with trivia games, a simulated lottery called "Scratch and Win," an ANSI game called Face Race, or a raffle. You may bank your winnings to your allotted system time or gamble more. I tried the "Scratch and Win." I gambled five minutes of system time... and lost. Not being a quitter, I tried again. Yes! I was an instant winner of an additional fifteen minutes. I netted an extra ten minutes online.

POWER ON THE ROAD.

Introducing the
NEW INFINITY
SYSTEMS
GROUP

486 Active Matrix Color VGA Notebook

Available July 20, 1993



NEW

Blow Out!

2000 SERIES

PRODUCT SPECIFICATIONS

CPU
Upgradable CPU Type
Intel 486SX-25/33, 486DX/33, 486DX2-50

CHIPSET
ACC 2046NT Core Logic
Motorola Lapkat Power Mgmt Ctlr

BIOS
Phoenix Bios
128 KB Flash Rom

MEMORY
4 MB Ram on Board
Expandable to 8 MB or 20 MB
Support EMS 4.0

CACHE MEMORY
8KB Embeded in 80486 CPU

VGA CONTROLLER
Cirrus 6225 Series with 512KB Ram Support-
- 640 x 480, 64 Shade Gray Scales Mono
- 640 x 480, 256 Colors STN Color
- 640 x 480, 256 Colors TFT Color
- Simultaneous CRT & LCD Display
- 1024 x 768 16 Colors in CRT Mode

DISPLAY
STN Mono - 9.5", 640 x 480, 0.3mm
STN Color-9.5", 640 x 480, 0.3mm
(1/240 Dual Scan Technology)
TFT Color-9.5", 640 x 480, 0.3mm

INTERFACE
One Serial Port
One Parallel Port
One Internal Fax/Modem Card Socket
with Two Phone Jacks on Modem Module
One External VGA Monitor Connector
One External Keyboard Connector
One External PS/2 Mouse Connector
One Power Supply Inlet
One 200-PIN Docking Station Connector, Support Interface -
- ISA Bus
- I/O Ports Connection
- External 5.25" Floppy Disk Drive
- External Input TFT Color LCD Panel

FLOPPY DISK DRIVE
One Built-in 3.5" 1.44MB Floppy Disk Drive

HARD DISK DRIVE
One Detachable 2.5" Hard Disk Drive

BATTERY
Packed with 10 Cells of NI-CD
AE Size Battery

BATTERY OP. TIME
More than 2 Hrs.

POWER MGMT
Full/Stand by/Suspend Modes

POWER SUPPLY
90 V/AC to 264 V/AC Full Range Auto Switch

TRACK BALL
One Built-in 16mm PS/2 Type

LED INDICATORS
10 Indicators-
- Power
- Battery Status
- HDD Active
- FDD Active
- Numlock
- Caplock
- Scroll Lock
- Padlock
- Standby
- Turbo

DIMENSION
227 X 290 X 43mm
(8.9 x 11.4 x 1.7 Inches)

WEIGHT
2.5 KGS (5.5 LBS)

OPTIONS
Internal Fax/Modem Card
Rechargeable Battery
Docking Stations
4MB or 16MB Memory Expansion Card

intel inside™

486-33.........	$1750
486-50.........	$1899
486DX2-66.	$1989

TOLL FREE **1-800-8INFINITY**

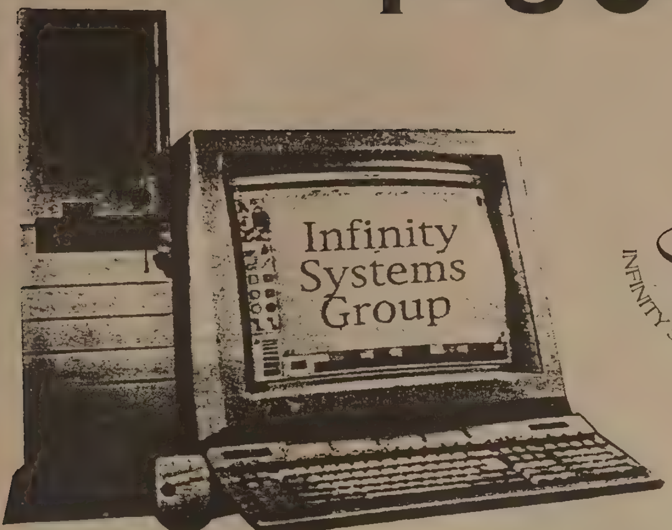
INFINITY SYSTEMS GROUP, INC.
16580 Harbor Blvd., Ste. M, Fountain Valley,Ca 92708
Tel: (714) 839-2440 • Fax: (714) 839-3561

INFINITY SYSTEMS GROUP, INC.

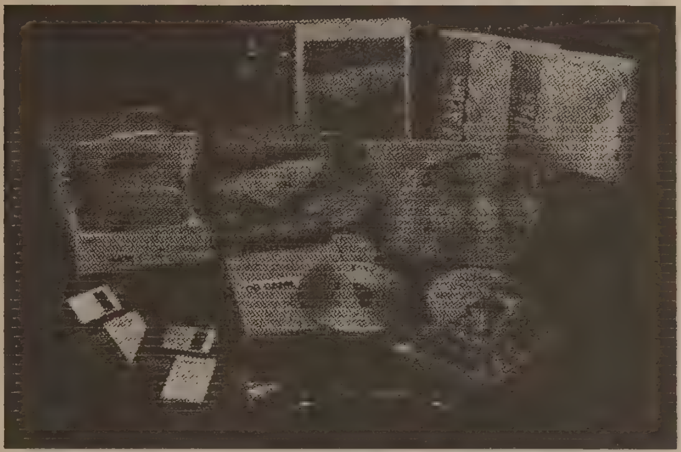
TOLL FREE **1-800-8INFINITY**

Los Angeles Sales Office
11768 West Pico Blvd., Los Angeles,Ca 90064
Tel (310) 575-4690 • Fax: (310) 575-4681
Sales: Mon. to Fri.: 8am to 7pm; Sat.: 10am to 4pm

1-800-8INFINITY



INFINITY SYSTEMS GROUP, INC.



WE BEAT ANY ADVERTISED PRICE

VESA Local Bus 486's

- Intel 486™ Microprocessor
- Built-in Math-CoProcessor (DX or DX2)
- AMI BIOS w/System Setup Utilities
- 235W UL Rated Power Supply
- Middle Tower Case & Digital Display
- 256K 20ns Cache Memory
- 4MB 70ns RAM Expendable to 32MB
- IDE Controller & 2 Serial/Parallels/Game Ports
- 1.2 & 1.44MB Floppy Drives
- 345MB 15MS Hard Drive w/64K Cache
- VESA 32 Bit 16.7m Color 1280 Ultra VGA w/1MB
- 14" SVGA Monitor (0.28mm, 1024x768 NI)
- 101-Key Enhanced Keyboard
- Free Hi-Resolution 3-Button Mouse
- Free Microsoft DOS 6.0 & Windows 3.1

intel inside™

486DX-33..........$1555

486DX-50..........$1705

486DX2-66........$1795

Ultra Graphics Stations (OPTIONS)

• 4MB 60NS RAMS	+$25
• 32BIT VESA IDE Controller	+$65
• 14" 72Hz VESA SVGA Monitor (1280x1024 NI)	+$35
• 15" 72Hz Low Radiation Flatscreen NI	+160

ISA 486 PCs

- •Intel 486TM Microprocessor
- •Build-in Math-CoProcessor (DX or DX2)
- •AMI BIOS w/System Setup Utilities
- •230W UL Rated Power Supply
- •Mini Tower Case w/Digital Display
- •256K 20ns Cache Memory
- •4MB 70ns RAM Expendable to 32MB
- •IDE Controller & 2 Serial/Parallel/Game Ports
- •1.2 & 1.44MB Floppy Drives
- •245MB 15MS Hard Drive
- •SVGA Card w/1MB RAM
- •14" SVGA Monitor (0.28mm, 1024x768)
- •101-Key Enhanced Keyboard
- •Free Hi-Resolution 3-Button Mouse
- •Free Microsoft DOS 5.0 & Windows 3.1

intel inside™

486DX-33 ....$1299

486DX-50 ....$1425

486DX2-66 ....$1525

Upgrade Options

(Upgrade from standard configuration)

•RAM Upgrade (per MB)	$40
•ISA 24Bit Accelerator w/1MB RAM	$75
•16.8M VESA to S3 805 VESA	$65
•VESA IDE Controller	$65
•VESA IDE w/1MB Cache	$225
•VESA SCSI Controller	Call
•14" NI to 14" 72Hz NI	$35
•14" 72Hz NI to 15" 1280 NI	$110
•170MB to245MB HDD	$35
•170MB to 210MB HDD	$95
•96/24 Fax/Modem Send/Receive	$70
•14.4/14.4 Fax/Modem Send/Receive	$174
•Heat Sink/Cooling Fan (for CPU)	$25
•Colorado 120/250MB Tape Backup	$175/$225

Multimedia

Sound Board

- •AdLib, Sound Blaster Pro II, Covox and Disney Sound Source Compativle.
- •OPL3 FM Stereo Synthesizer Generation 20 Voices With 4 Operators.
- •Stereo Production and Playback of Sounds from Four Sound Sources.
- •Sampling Rate of 4KHz to 44.1 KHz.
- •ADPCM Decompression up to 4:1.
- •Automatic Stereo Microphone Recording Level.
- •Buitl-In Midi Interface with a 64Byte Time Stamp.
- •4 Watt Amplifier Driven Through 2 Speakers.
- •User Friendly Game Port Enable/Disable.
- •16Bit Built in at CD-ROM Interface.
- •Two Stereo Speakers.

CD-ROM

Disk Format:	IS09600
Disk Capacity:	630MB
Data Transfer:	175KB/SEC.
Data Transfer "Burst":	1.6MB/SEC.
Access Time:	350MS "1/3 Stroke"
Interface:	At
Memory Buffer:	32KB
Frequency Response:	20Hz to 20 KHz
MTBF:	250000H

Software

Windows 3.1 Drivers, Windows Digital Audio Transport, Monologue, Sound Script, Jukebox, Sound Tracks and Microsoft CD Extension.

CD Titles

Toolworks Multimedia Encyclopedia: 21 Volume Set. 33,000 Pictures, 35 Minutes of Video, 35 Minutes of Sounds and 250 Maps.

World Atlas: 240 Detailed VGA Color Maps. Data of Every Country in the World.

US Atlas: Full Color Maps of All States.

Game Pack II: Chessmaster 2100, Bruce Lee, Life & Death, Beyond the Black Hole, Loopz, Cribbage King, Puzzle Gallery, Backgammon, Robot Tank, Gin King.

$395

INFINITY SYSTEMS GROUP, INC.

intel inside

Inside Logo is a trademark ofIntel Corporations

INFINITY SYSTEMS GROUP, INC.

TOLL FREE
1-800-8INFINITY

INFINITY SYSTEMS GROUP, INC.
16580 Harbor Blvd., Ste. M, Fountain Valley,Ca 92708
Tel: (714) 839-2440 • Fax: (714) 839-3561

Los Angeles Sales Office
11768 West Pico Blvd., Los Angeles,Ca 90064
Tel (310) 575-4690 • Fax: (310) 575-4681
Sales: Mon. to Fri.: 8am to 7pm; Sat.: 10am to 4pm

BBSes

ming, finance, astronomy forums, more. Free. [Exp. #112.]

Xchange Net. (310)452-3374. 8N1 Totally classified ads, totally free. [Exp. #112.]

714

Alzheimer's BBS Of O.C. (714)731-3045. 8-N-1, 24 hrs., 2400. Info on day care, support groups, respite care services, articles, and related info. Non-sub, text file and msgs only. Sysop: Vladim Ostapowicz. [Exp. #112.]

Astronomy BBS. (714)738-4331. 2 lines, space GIFs, weather sat images, planetarium progs. AMSAT Keplarians, NASA news. [Exp. #112.]

Commodore Computing. (714)673-2185. 8N1, 24 hrs., 300/1200/2400. Supports C64/128. Free. Sysops: Stephen Fabre/Jay Darrow.[Exp. #112.]

Diaspar Virtual Reality Network. (714)831-9101 (2400), 362-9995 (9600). Home EduTainment Center, 20+ lines, experience virtual reality. Sysop: David Mitchell. [Exp. #112.]

Direct Data Source BBS. (714)538-3065. 8-N-1, 300/1200/2400/9600/14,400. Chat, 14,000+ files, echo mail, live games. Sysop: Justine Guthrie. [Exp. #113.]

Infinity BBS. (714)379-1335. 8-N-1, 300/1200/2400/9600/14,400. 20 lines, 3GB file library w/adult GIFs, teleconference, email, games, FidoNet. Sysop: Eric Robitaille [Exp. #113.]

Kaiwan. (714)539-5726, 539-7436. 7-E-1, 24 hrs., 1200/2400/9600/14,400/16,800. Internet/UNIX, FTP/Telnet, email, news, no time limit. $10/mo. Login: guest. Sysop: Kailan Hwang. [Exp. #112.]

LAX Matchmaker. (714)895-5862. 8-N-1, 24 hrs., 300/1200/2400. Internet email, matching, chat, Holodeck, GIFs. [Exp. #112.]

The Master Connection BBS. (714)651-9815. 24 hrs., 1200–16,800. Games, utilities, graphics. No fee. Sysop: Mark Duvall, Jr. [Exp. #112.]

The Master Cylinder. (714)738-3677. 300/1200/2400/9600/14,400. 800MB, 3 CD-ROMs, WildNet node, p/d files online. Free. Sysop: Doug Fick. [Exp. #112.]

The Midnight Mission BBS. (714)848-6808. 8-N-1, 24 hrs., 1200/2400/9600/14,400. Large game and GIF file areas. Full access w/call back verification. Sysop: Marty Strech. [Exp. #113.]

PC-Applications BBS. (714)432-9104, 557-8351, 557-6688. 24 hrs., 1200–14,400. Online games, email, echo-mail, over 250 conferences. Full access on first call with call back verifier. Sysop: Dave Robinson. [Exp. #113.]

Sherlocktron. (714)492-0724. 8-N-1, 24 hrs., 2400. Sherlock Holmes BBS with lists of societies, publications, and purveyors. Sysop: Willis G. Frick. [Exp. #112.]

Software Exchange BBS. (714)552-3515. 8-N-1, 1200/2400/9600/14,400. Over 30,000 files, over 4100 members. National echo mail, games, live chat. Free trial membership. Sysop: John Coon. [Exp. #112.]

Software Gallery BBS. (714)991-4019. 1200/2400/9600/14,400. Games, graphics, utils, adult, CD-ROMs. Free. Sysop: Joe Engebretson. [Exp. #113.]

805

BrainStorm BBS. (805)584-6088. 2400/9600/14,400. 8 lines, 10,000+ files, online games, chat, SIGs. [Exp. #112.]

Fantasy Sports BBS. (805)251-3902. 3:00 pm–9:00 am, 300/1200/2400. Sports related. Free. [Exp. #113.]

Real Estate Network. (805)298-2671. 2400. Free access to homes, agents, and software. [Exp. #113.]

818

African American BBS! (818)793-9155. P-Funk online. Sports, issues, health, business. Free. Sysop: Jeffery Mitchell. [Exp. #112.]

Alternate Lifestyles BBS. (818)457-6325. Adults only, for people who are into alternative lifestyles. Free two week trial. [Exp. #112.]

Asian American BBS. (818)284-4519. 1200/2400/9600/14,400. Focus on Pacific Rim business and issues. Carries *China News Digest.* Lrg. Asian-American user group. Free. [Exp. #113.]

Blasin' Bytes BBS. (818)776-2777. 1200/2400. 16 lines, 35 games, networks, three associate BBS's. Sysop: Barbara Mallut. [Exp. #112.]

The Continuum BBS. (818)441-2625. Online games, conferences. Free. [Exp. #112.]

Chatterbox! BBS. (818)995-6959. 8-N-1, 24 hrs., 2400/9600/14,400. GIFs, ASP approved BBS, over 4GB library, multiline chat, games, and more. Sysop: Don. [Exp. #113.]

Data Field BBS. (818)966-3305. 8-N-1, 24 hrs., 1200/2400/9600/14,400. OS/2, DOS, programming, graphics. Free. Sysop: David Levin. [Exp. #112.]

The Fotress BBS. (818)831-5072. 24 hrs., 14,400. The new BBS in the Valley, accepting members. Free. [Exp. #112.]

FreeLink BBS. (818)772-9934. 14,400. CD-ROM, UL/DL, messaging, multiline. Free, instant gratification. [Exp. #112.]

KBTC BBS. (818)967-0701. 24 hrs., 2400/9600. Business, education, games, and 7200+ files online. Free access on first call. Sysop: James Kalinowski. [Exp. #112.]

Laser Line BBS. (818)345-9122. 24 hrs., 2400. Amiga, Mac, IBM DTP, 1200 dpi laser printing online. [Exp. #113.]

Microlink PCUG BBS. (818)961-7903. 24 hrs. Free. [Exp. #112.]

Pro-Line BBS. (818)718-2450. Multiline, chat, matchmaking, lrg. file selection, email, database, and more. [Exp. #112.]

Software Bank. (818)993-5516. Mouse driven VGA RIPscrip Graphics. 8 lines, 6 CD's online, chat, multiline user interactive games. [Exp. #113.]

Southland Matchmaker. (818)793-9108. Pen-pal system, multilines, chat, game. Enter 'mm' at login prompt. [Exp. #113.]

The Treehouse BBS. (818)988-2115. Large file library, 4GB of adult GIFs, games, Windows programs, etc. Private and group chat. Free full access. [Exp. #112.]

Utilities Plus BBS. (818)842-3631. 2400. Utilities, IBM files, Adult GIFs. Member of United Sysops Association. [Exp. #112.]

Valley Apple CC BBS. (818)782-6471. 24 hrs., 300/1200/2400. Friendly to beginners. [Exp. #112.]

Valley Computer Club BBS. (818)999-0925. 8-N-1, 1200/2400. Sysop: Jeff Woolf. [Exp. #113.]

Wizardry BBS. (818)222-4444. 1200/2400/9600. Online games, GIFs, text files. Free! [Exp. #112.]

909

CyberNETix. (909)734-1366. 14,400. Demos, clean GIFs, WAVs, MODs, MIDs, VNET email. Free. [Exp. #112.]

The Drop Zone! (909)245-3854, 245-9149. 24hrs., 1200/2400/9600/14,400/19,200. 2GB, echo mail, dl on first call. Adult by Sub only. Sysop: Rick Simmons. [Exp. #112.]

The Tavern. (909)591-9149 300/1200/2400/9600/14,400. Adult/clean, GIFs, NetWare, games. Free and subscription. Sysop: The Bartender. [Exp. #112.]

Music BBS
24 Hours a Day
818-789-4287

FreeLink 818-772-9934
CD ROM Multi-line, 14.4 Baud
Messaging, Uploads, Downloads
Instant Gratification, Free

LeGeND
GraPHicS
OnLinE
Nation's One-Stop
Graphics BBS
SuperVGA Photo Images, Adult GIFs, Video in Motion Movie Pics
(909)689-9229

NITELOG
20 Nodes BBS
OS2 ◦ DOS ◦ Windows
& Image Files
Internet ◦ Usenet
Rime ◦ ILink Email
(408) 665-1096 2400 bps
(408) 655-8294 v.32bis
(408) 665-8297USR HST
Register Online

Amateur Action BBS
World's Largest Collection of
Amateur Adult GIF Files.
New Member Bonus!!
Receive a
FREE Amateur Video!!
(408) 263-3393
Sweet Sixteen!!
Now 16 High Speed Lines
US Robotics Dual Standard
Modems on all 16 Lines!
Easy Connection! No Waiting!
VISA
V.32 / 14400 HST
MasterCard

BBS Spotlight cont.

Files for download are plentiful. Regular system files are available; as well as uploads posted by other users. File categories include everything from games and utilities to a full list of Windows applications. A big bonus on the system is the ability to download files from the CD-ROM library. Over seven thousand files are accessible in this library with file topics changing daily. System Operators have even more CD-ROM titles on order, to offer the latest files to users. The system's high-speed modem access will greatly enhance your downloading pleasure, as well as provide better use of your allocated system time.

Conferences you may join include private email, system messages, and a wide range of topics for almost any interest. Message exchange with other users on your topics of interest will add to your modeming pleasure. The conferences are also supported by CYBERnet, MSI SUPPORTNET, and ThrobNET (adult-oriented) to enable conference use across modem networks. System bulletin #3 gives a detailed report for conference usage.

Chatting between nodes with other callers currently connected gives you real-time communication with users who will quickly become system friends. You'll find that callers typically have a particular time of day they'll call, and meeting with regulars will become commonplace.

Full system access to a full-featured BBS is a welcome find among the thousands of BBSes appointing Southern California. The Drop Zone! can be reached by calling (714) 245-9149 or (909) 245-9149. In the never-ending search for a great BBS, EUREKA! You've found it! ■

Copyright© 1993 by John Wolcott. All rights reserved.

K-NET, Inc.

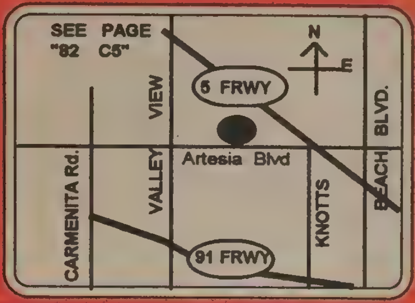
Personal Computers & Local Area Network Specialists

14747 ARTESIA BLVD. #1F, LA MIRADA, CA 90638

Order Hot Line: TEL:(714)994-3443

FAX:(714)994-2619

Novell Certified NetWare Engineer



K-NET 486DX ISA Deluxe System

- * ***INTEL*** 486DX/486DX2 CPU
- * Internal i487 Math Coprocessor
- * Heat-Sink w/ Fan for 50MHhz/66Mhz
- * **4 MB** Memory Exp. to 32MB
- * ***256 K Fast Cache*** Memory
- * **170MB** Hard Drive
- * ***TEAC* 1.2 & 1.44** MB Floppy Drive
- * Deluxe Mini Tower or Desktop Case w/ PS
- * ***Graphic Accelerator*** Card w/ **1MB** RAM
- * Super VGA Monitor, ***.28 Dot Pitch,1024x768,Edge to Edge***
- * IDE Floppy / Hard Disk Controller Card
- * 2 Serial / 1Parallel / 1Game Port
- * 101 Enhanced Keyboard

486DX-33Mhz....................$1188

486DX-50Mhz...................$1368

486DX2-66Mhz................$1448

K-NET 486DX 32 Bit VESA Local Bus System

- * ***INTEL*** 486DX/486DX2 CPU
- * **4 MB** Memory Exp. to 32MB
- * Internal i487 Math Coprocessor
- * ***256K Fast Cache*** Memory
- * ***170 MB*** Hard Drive
- * ***TEAC* 1.2 & 1.44** MB Floppy Drive
- * ***32 Bit VESA Local Bus IDE Controller Card***
- * ***32 Bit VESA Local Bus Accelerator Video Card*** **w/ 1MB**
  (16.7M True Color Display & up to 1280x1024)
- * Deluxe **Middle** Tower Case
- * ***Non-Interlaced*** SuperVGA Monitor ***.28dp, 1024x768***
- * 2 Serial / 1 Parallel / 1 Game Port
- * 101 Enhanced Keyboard

486DX-33Mhz..$1298 486DX2-66Mhz..$1558

- ** 245MB Hard Disk +$55*
- ** 340MB Hard Disk +$140*
- ** S3 Accelerator Vesa Local Bus Vedio Card w/1MB+$59*
- ** Diamond Stealth 24 Vesa LB Video Card w/1MB +$69*
- ** Orchid Fahrenheit Vesa LB Video Card w/1MB +$79*
- ** 14" VESA standard, Non-Interlaced Super VGA Monitor 1280x1024,70Hz,.28dp....................+$35*
- ** 15" Flat screen, Non-Interlaced Super VGA Monitor 1280x1024,70Hz,.28dp..........................+$120*
- ** 17" Flat screen, Non-Interlaced Super VGA Monitor 1280x1024,72Hz,.28dp.........................+$560*

K-NET 386DX-40Mhz 128K Cache System

- * AMD 386DX-40Mhz CPU
- * **4MB** Memory Exp.32MB
- * ***128K Fast Cache*** Memory
- * ***120MB*** Hard Drive
- * **TEAC 1.2 & 1.44** MB Floppy Drive
- * Deluxe Mini Tower or Desktop Case
- * ***Graphic Accelerator*** Card w/ **1MB** RAM
- * Super VGA Monitor ***(1024x768, Edge to Edge)***
- * Floppy / Hard Disk Controller
- * 2 Serial / 1 Parallel / 1 Game Port
- * 101 Enhanced Keyboard

Best for Student!!

$888

K-NET 486DLC-33Mhz or 40Mhz Deluxe System

- * CYRIX 486DLC–33/40Mhz CPU
- * **4 MB** Memory
- * ***128 K Fast Cache*** Memory
- * Math Coprocessor Included
- * ***120MB*** Hard Drive
- * **TEAC 1.2 & 1.44** MB Floppy Drive
- * Deluxe Mini Tower or Desktop Case
- * ***Graphic Accelerator*** Card w/ **1MB** RAM
- * Super VGA Monitor (***1024x768, Edge to Edge***)
- * Floppy / Hard Disk Controller
- * 2 Serial / 1Par. /1Game Port
- * 101 Enhanced Keyboard

$1038/33Mhz **$1118/40Mhz**

K-NET 486DX *EISA* VESA Local Bus System

- * ***INTEL*** 486DX/486DX2 CPU
- * **4 MB** Memory Exp.32MB
- * Built-in Math Coprocessor
- * ***256K*** *Fast* Cache Memory
- * ***245MB*** Hard Drive
- * 101 Enhanced Keyboard
- * Deluxe **Middle** Tower Case
- * ***32 Bit VESA LB Accelerator Card*** **w/ 1MB**
  (16.7M Color & up to 1280x1024)
- * ***32 Bit VESA Local Bus IDE Controller***
- * ***15" FLAT Screen Non-Interlaced .28dp***
  SuperVGA Monitor ***,1280x1024, 70Hz***
- * **TEAC 1.2 & 1.44** MB Floppy Drive
- * 2 Serial / 1 Parallel / 1 Games port

486DX-33Mhz.......$1668

486DX2-66Mhz.....$1868

K-NET NOTEBOOK SERIES

CANON _INNOVA 386SX

- * 386SXLV-25MHz CPU
- * ***4MB*** RAM exp.8MB
- * ***80MB*** Hard Disk(16MS)
- * 3.5" 1.44MB Floppy Drive
- * 10" Mono LCD VGA, 64 Gray
  Simultaneous display(800x600 16 color)
- * ***Super longlife Battery 4-6 hours***
- * ***FAX/Modem*** (9600/4800,Send/Receive)
- * 82/83 Key Keyboard
- * ***Logitech Trackman Mouse***
- * Weight 5 3 Lbs w/Battery * 11 4" W X 8.7"D X 1.5"H

* MS-Works for windows, Win-Fax, MS-Windows V3.1, MS-Dos V5.0
Pre Installed! Ready to Go !!

$1318

EPSON _ActionNote 4SLC/25

- * 486SLC-25MHz CPU
- * ***4MB*** RAM exp.8MB
- * ***120MB*** Hard Disk(16MS)
- * 3.5" 1.44MB Floppy Drive
- * 10" Mono LCD VGA,
  640x480 VGA display in 32 shades of gray
- * ***FAX/Modem*** (9600/4800,Send/Receive)
- * 84 Key Keyboard w inverted T cursor controls
- * ***Logitech Trackman Mouse***
- * Weight 5.5 Lbs. w/Battery * 11.0" W X 8.7"D X 1.6"H
- * *One-year warranty including On-Site service*

* Win-Fax Lite and Bitcom, MS-Windows V3.1, MS-Dos V5.0
Pre Installed! Ready to Go !!

$1665

Free Mouse
With System Purchase

Financing Available!

"Make Easy Payments for your purchases"
Credit Approval in Minutes

K-NET PRODUCT LINE

Printers:

HP DeskJet 500/500c/550c.$ Call for
HP LaserJet 4L / IIIP.......$ Best
HP LaserJet 4...............$ Price
CANON Bubble Jet 10ex...$ 245
CANON Bubble Jet 200.....$ 329
EPSON, Panasonic, OKIDATA, and more selection for dot matrix printers..!!

(Cash price for all of the advertised printers)

Multimedia:

Mitsumi CD-ROM (350ms)...$ 195
Sound Commander Pro ....$ 105
(w/speaker & software)

Media Pack # 1:
Sound Commander Pro Multimedia Upgrade Kit........$ 395
(Mitsumi CD-ROM Drive, Speakers, Remote Controller & Receiver, Sound Commander Pro, Bundled Software, 4 CD Titles)

Media Pack # 2:
Multimedia Kit....................$ 385
(Panasonic CD-ROM Drive(390ms), Sound Blaster Pro Card, and 5 CD Titles)

Media Pack # 3:
Media Resource pro 16 Kit...$615
(Toshiba 3401B SCSI CD-ROM Drive, Pro Audio spectrum 16 Stereo Sound Card, and a pair of speakers)

System Upgrade:

120MB to 170 MB Hard Disk ....+$20
Non-Interlaced Monitor, .28dp............+$30
Colorado 120MB Tape Backup.......+$189
Colorado 250MB Tape Backup.......+$225
2400 Internal Modem......................$30

96/96/24 FAX Modem.....$55
(w/ Windows Software)

MAG Monitor:
15" (1564), NI, 1280X1024,.28........$440
15" (MX15H),1280x1024,72hz,.28...$535
17" (MX17H),1280x1024,72hz,.28...$965

Business Hours:

M-F 10-6 Sat. 11-5

*** All advertised price reflect 2% cash discount ***

**Please call for price and configuration not listed
**Ask about our NOVELL networkingproducts & services
**All systems carry 1 year parts & labor limited warranty
**Price subject to change without notice
**15-day money back guarantee w/15% restocking fee on ressaleable condition

PASADENA COMPUTER

PASADENA COMPUTER

An Authorized Hewlett Packard Dealer

IBM Motherboard

Motherboard Made By IBM

Board Features:
- 3 Years IBM Motherboard Warranty
- Hardware/Software Turbo Clock Switching
- Bus Speed Changeable, Easy Access to Front Panel Connector Setting
- Battery Backup for CMOS Configuration & Real-Time Clock/Calendar

SALE PRICE: $1465

CASH DISCOUNT:

$1195

486SLC2-50MHz
- IBM Motherboard
- Math Coprocessor & ETEQ Chip
- 4MB RAM up to 16MB
- 64K Cache up to 128K Cache
- 1.2 & 1.44MB Floppy Drive
- Conner 170MB Hard Disk
- Paradise Window-Accelerator w/1MB 1280 x 1024, 16.7M Colors, 16 Bit True Color
- IDE Dual FD/HD Controller
- 2 Serial, Parallel, Game Port
- 14" SVGA 1024 x 768 (.28) Monitor
- 101 Enhanced Keyboard

CPU	IBM48650	486DX33	486DLC33
MIPS	19.4	14.5	11.2
LANDMARK	114.88	111.5	107.2
NORTON	67.7	51.6	54.1

Intel 486DX VESA Local Bus

- 212MB FAST IDE HARD DISK
- 32-BIT VESA SVGA CARD 1280 W/1MB 16.7M COLORS
- 32-BIT VESA DUAL IDE FD/HD CONTROLLER CARD (20% INCREASE IN HARD DRIVE PERFORMANCE!)
- 14" CTX NON-INTERLACED SVGA 1024 X 768 (.28)
- INTEL 80486 PROCESSOR WITH BUILT-IN MATH
- 256K CACHE RAM
- 4MB RAM UP TO 32MB RAM ON BOARD
- 1.2MB & 1.44MB FLOPPY DRIVES
- AT I/O: 2 SERIAL, PARALLEL, GAME PORT
- 101 KEYBOARD

CASH DISCOUNT:

I486DX-33	$1305
I486DX-50	$1475
I486DX2-66	$1550

INTEL 486DX SYSTEM

- INTEL 80486 PROCESSOR WITH BUILT-IN MATH
- 256K CACHE RAM
- WINDOWS ACCELERATOR SVGA CARD W/1MB SUPPORT VESA 72Hz, 1024 SHOW 256 COLORS (48% FASTER THAN TRIDENT)
- 212MB FAST IDE HARD DISK
- 4MB RAM UP TO 32MB RAM ON BOARD
- 1.2MB & 1.44MB FLOPPY DRIVE
- AT I/O: 2 SERIAL, PARALLEL, GAME PORT
- 14" SVGA 1024 X 768 (.28) MONITOR
- 101 KEYBOARD

CASH DISCOUNT:

I486DX-33	$1195
I486DX-50	$1375
I486DX2-66	$1450

HEWLETT PACKARD
Authorized Dealer

HP DeskJet 500
HP DeskJet 550C

$369

Color Inkjet Output at 300dpi
- Prints in Color or Black and White
- 100 Sheet Paper Feeder
- Whisper Quiet
- 3 Year Warranty

HP LaserJet 4L

PRINTER
- 1MB RAM
- 300 dpi Laser Printing
- 26 Built-in Scalable Fonts
- Small 14" by 14.5" Footprint Fits Perfectly on Your Desk
- Automatic On/Off Switch

HP LaserJet IIIP

$785

Resolution Enhancements Yield the Highest Quality Laser Output!
- 8 SCALABLE Fonts
- 14 Bit-Mapped Internal Fonts
- 1MB RAM
- 4 Pages/Minute
- Serial/Parallel
- Postscript Upgradable

HP LaserJet 4

$1385

- Fast 8ppm Printing for Complex Documents
- 45 Scalable Fonts
- 2MB RAM
- 600dpi Print Quality at a 300dpi Price
- 300 Page Paper Capacity
- Ideal for Windows and Graphics
- Optional Full Network Capabilities

All Printers are Cash Prices Only.

386DX-40MHz

- WINDOWS ACCELERATOR SVGA CARD WITH 1MB RAM, SUPPORT VESA 72Hz, 1024 SHOW 256 COLORS (48% FASTER THAN TRIDENT)
- 212MB FAST IDE HARD DISK
- 128K CACHE
- 4MB RAM UP TO 32MB RAM ON BOARD
- 1.2MB & 1.44MB FLOPPY DRIVE
- DUAL IDE FD/HD CONTROLLER CARD
- AT I/O: 2 SERIAL, PARALLEL, GAME PORT
- 14" SVGA 1024 X 768 (.28) MONITOR
- 101 KEYBOARD

SALE PRICE: $980

CASH DISCOUNT: [illegible]

"Best Buy"

Canon **BubbleJet 200 Desktop Printer**

- LASER-QUALITY PRINT–360dpi
- FAST AS A LASER–RIVALS 4ppm LASERS
- QUIET AS A LASER– LESS THAN 42dB(A)
- HANDLES LIKE A LASER– AUTO FEED 100 SHEETS, OR 10 ENVELOPES
- LASER PERFORMANCE AT NEARLY HALF THE COST
- RELIABLE– 2 YEAR WARRANTY

$335

Canon

BUBBLE JET BJ-10EX PORTABLE INKJET PRINTER PLAIN PAPER PORTABLE PRINTER!

- 83 CHARACTERS/SECOND
- 360 DPI - LIGHTWEIGHT 4 LBS.
- UP TO 30 SHEETS
- 45 DBA - IT'S QUIET!
- EPSON EMULATION
- LETTER QUALITY TEXT & GRAPHICS

$245

Canon

BUBBLE JET BJ-230

INKJET PRINTER

- 248 CHARACTERS/SECOND
- 360 DPI
- ANY SIZE PAPER
- UP TO 100 SHEETS
- 7.7 LBS.
- WIDE CARRIAGE
- CAN PRINT LANDSCAPE 11"x17"

$425

Pasadena Computer serves the Southern California area as one of the leading computer products suppliers. We offer superstore quality and prices but with the kind of personalized service you demand. Pasadena Computer provides Local Bus systems as well as major brand name products like Hewlett Packard, Canon and AST. Some of our satisfied customers are JPL, Caltech and County of LA to name a few. Check out what makes Pasadena Computer so special: One Year Parts and Labor Warranty • Lifetime Technical Support • Free Estimates • 72 Hour Burn-in Test • We Accept School & Government PO's • Customer Configurations Welcome • On-Site Service Available

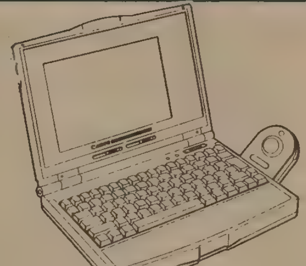
PASADENA COMPUTER

An Authorized Hewlett Packard Dealer

Leasing Program Available.
90 Days Same as Cash.
Ask Your Sales Representative for Details.

NOTEBOOK SPECIALS

Canon
INNOVA 386SX
Notebook



- 386SXL-25MHz CPU
- 80MB HD
- 4MB RAM UP TO 8MB
- 1.44MB FLOPPY DRIVE
- 10" MONO LCD VGA 640 X 480, 64 GRAY SCALES
- SUPER LONGLIFE BATTERY 4-6 HOURS
- 9600 FAX/2400 MODEM
- LOGITECH TRACKBALL
- NICD BATTERY
- WEIGHT 5.3 LBS. W/BATTERY
- ONE YEAR ON-SITE SERVICE
- TOLL-FREE HOT LINE FROM CANON

Pre-Installed
MS-Works for Windows
MS-Windows V3.1
MS-DOS V5.0
Win-Fax
(All Software w/Manual)
$1275
CASH DISCOUNT

SALE PRICE: $1465
w/120MB HD $1399

Canon
486 NoteJet
486 Notebook

Built-In Bubble Jet Printer Two-In-One!

NEW

- 486SLC 25MHz
- 4MB UP TO 12MB
- 1.44MB FLOPPY DRIVE
- 80MB HARD DISK
- BUBBLE JET PRINTER BUILT-IN
- AUTOMATIC SHEET FEEDER BUILT-IN
- 10" LCD VGA SCREEN
- CANON 2-BUTTON HAND HELD TRACKBALL
- MS DOS, WINDOWS 3.1
- 4 HOUR BATTERY
- 7.7 LBS. w/BUBBLE JET PRINTER INSIDE

CASH DISCOUNT:
$2299

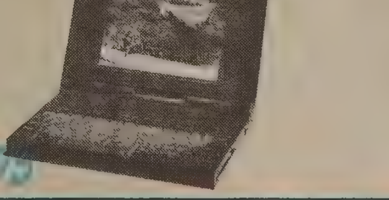
SALE PRICE: $2520
w/135MB HD $2399 w/185MB HD $2699

EPSON 486SLC-25MHz NOTEBOOK
(One Year On-Site Service)

- 10" BACKLIT LCD DISPLAY
- 9600 FAX/2400 MODEM
- 4MB RAM UP TO 8MB
- 120MB HARD DISK
- 1.44MB FLOPPY DRIVE
- WEIGHT 5.5LBS. (W/BATTERY)
- VGA, 2 SERIAL, PRINTER PORT
- CARRYING BAG
- LOGITECH TRACKBALL
- BUILT-IN POWER MANAGEMENT
- PRE-INSTALL SOFTWARE: (W/MANUALS)
  - -MS-DOS
  - -MS WINDOWS 3.1
  - -WIN FAX

CASH DISCOUNT:
$1599.99

486SLC-25 COLOR NOTEBOOK



- BUILT-IN TRACKBALL MOUSE
- 4MB RAM, UP TO 8MB
- 120MB HARD DISK
- 1.44MB & 3.5" FLOPPY DRIVE
- 640 X 480 VGA COLOR SCREEN
- SERIAL, PARALLEL, VGA, KEYBOARD PORT
- POWER MANAGEMENT
- 6.6 LBS.
- MS DOS 6.0
- CARRYING CASE

CASH DISCOUNT: $2095

MONITORS

	Regular/Cash
20" PRESENTA SVGA	$1055/$999
17" VIEWSONIC 7	$1050/$990
14" VIEWSONIC 6E	$350/$325
17" KFC 1280 X 1024 .26	$799/$750
15" KFC 1280 X 1024 .28	$450/$420
14" INFINITI VESA 72Hz	$315/$295
14" INFINITI 0.28 NI	$305/$285
14" DATAS 1024 X 768 .28	$245/$230

ADD-ON CARDS

VGA W/256K	$32/$30
SVGA W/512K	$42/$40
SVGA W/1MB (OAK)	$59/$55
ATI WONDER XL (OEM)	$135/$130
ATI GRAPHIC ULTRA PRO	$499/$465
ATI ULTRA PRO VESA (OEM)	$455/$425
ATI ULTRA PRO EISA	$695/$640
ORCHID FAHRENHEIT 1280	$195/$180
ORCHID FAHRENHEIT VLB	$225/$195
AT I/O 2S/P/G	$18/$15
AT IDE CONTROL CARD	$18/$15
IDE W/ I/O 2S/P/G	$25/$22
PARADISE ACCELERATOR 1MB	$145/$135

MOTHERBOARDS

486-33/50/66 256K	$150/$139
486-25/33/50/66 128K	$125/$110
486-33/50/66 256K VLB	$170/$155
486-33/50/66 256K EISA	$320/$295
386DX-40/128K w/CPU	$190/$175
386SX-33 w/CPU	$105/$95
IBM 486SLC2-50 w/CPU	$425/$395

FAX/MODEM

14.4 POCKET FAX/MODEM	$350/$325
14.4/96 FAX/MODEM (EXT)	$250/$230
14.4/96 FAX/MODEM (INT)	$199/$175
96/24 FAX/MODE (INT)	$65/$60
2400BR INTERNAL MODEM	$45/$39

KEYBOARD & MICE

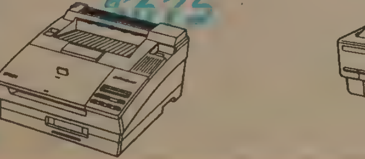
BTC 101 ENHANCED KEY	$22/$20
MAXISWITCH 101 KEY	$36/$34
FOCUS 2001 101 KEY	$43/$39
FOCUS 9000 124 KEY	$70/$66
FUJITSU 4700 101 KEY	$47/$45
MOUSE	$16/$15
TRUE TRACK BALL	$22/$20

PLEASE CALL FOR PRICING ON CPU, MEMORY AND HARD DRIVE

EPSON EPL 8000

- 10 PAGES PER MINUTE
- HP III COMPATIBLE
- 13 SCALABLE FONTS
- 14 RESIDENT FONTS
- 1MB UP TO 5MB
- 250 SHEET TRAY
- 2 YEAR WARRANTY

$855



EPSON ACTION 1500

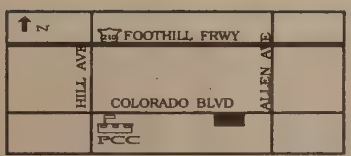
- 6 PAGES PER MINUTE
- HP III COMPATIBLE
- 14 RESIDENT FONTS
- 13 SCALABLE FONTS
- 1MB RAM UP TO 5MB
- 150 SHEET TRAY
- 2 YEAR WARRANTY

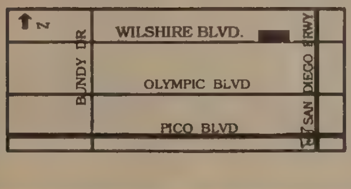
$675

EPSON LQ-570+

- 250 CHARACTERS/SECOND
- 10 BUILT-IN FONTS
- 2 SCALABLE FONTS

$245





BUSINESS HOURS:
MONDAY-FRIDAY 9:00-6:00
SATURDAY 10:00-6:00

PASADENA
1756 E. Colorado Blvd.
Pasadena, CA 91106
Tel: (818) 568-1088
Fax: (818) 568-9132

LOS ANGELES
11841 Wilshire Blvd.
LA, CA 90025
Tel: (310) 575-4028
Fax: (310) 575-3831

ALL PRICES AND PRODUCTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE

PASADENA COMPUTER

A World of Information and Entertainment

AUVAMEDIA

Built Into A Top Performing Computer System

$999
Worth of
CD ROM Titles
FREE!
Encyclopedia, Game Pack, Mayo Clinic, WP, Spreadsheet & Graphics

Multimedia Computing Systems

- •Magnetic Shield speakers in case for smaller footprint
- •Sound Explosion With Quality Amplification
- •Pre-Assembled-Ready to Go
- •Computer for the future—Upgradable MotherBoard and Key Multimedia Components
- •Cost Effective Package vs Separate Add-Ons
- •FCC B, UL Approval

Fully loaded Systems Include:

intel inside

4 MB RAM, 256K High-Speed Cache, 170MB Hard Drive, CD-ROM & Sound Card (3)VESA Bus Slots (2 Master), 1.2 MB & 1.44 MB Floppy Disk Drives, Keyboard & Mouse, Windows 3.1 & DOS 5.0.

486SX/25	$1,399
486SX/33	$1,499
486DX/33	$1,699

Selection of Monitors available through your dealers.
All Systems contain an Intel 486™ microprocessor.

Local Dealers:

PC CLUB

18537 E. Gale Ave. #B
Industry, CA 91748
(818) 913-2582

Waisun Corporation
17517 Fabucca Way #E
Cerritos, CA 90701
(714) 562-0118

1 Year Product Warranty • Financing Available

Built-In Amplified Stereo Speakers and Pre-Assembled to "PLUG & PLAY

AUVA

(714) 562-6988 Fax: (714) 562-6990

ASSOCIATIONS

Independent Computer Consultants Association, Los Angeles Chapter. Meetings: 1st Thurs., 6:00 pm. Prepaid reservation, $25, or at the door, $35. The LA chapter provides referral services. Call: (213)872-1811. [Exp. #116.]

Orange County Association Of PICK Professionals. Meetings: 3rd Wed., 6:00 pm. Dinner: Members, $25; nonmembers, $30. Without reservations add $5 additional. Call: (714)557-9229. [Exp. #113.]

Orange County Independent Computer Consultants Association. Call: (714)552-2384. [Exp. #116.]

Software Council Of Southern California. A nonprofit trade association whose membership is comprised of software development organizations as well as companies providing support and services to the local software industry. Call: (310)328-0043. [Exp. #112.]

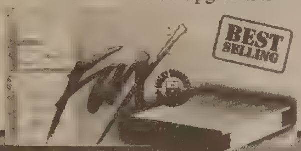
KBBS
BULLETIN BOARD
PARTIES
LIVE CHAT
LIVE GAMES
XXX GRAPHICS
FONTS & SOUND
MEMBER PHOTOS
EMPLOYMENT REGISTRY
THE LATEST SHAREWARE
VIA MODEM
50 LINES!
2500 CALLS/DAY!
Try It FREE This Week!

GARLIQUE
Image Center
Excellence On-Line!
By Modem:
408-847-0665

Computer Max
714•953•0233

14.4 SEND/RECEIVE FAX MODEM
V.32BIS, V.42BIS

ZOLTRIX CALCOM INTERNAL		EXTERNAL ACEEX
$149	• 14,400BPS - DATA/FAX SPEEDS • • SUPPORTS COM 1-4 • • SOFTWARE INCLUDED • • 5 YEAR WARRANTY •	$179
$189	ZOOM • VIVA US ROBOTICS	$209
$209	PRACTICAL PERIPHERALS	$235
$199	SUPRA INCLUDES WINFAX LITE SOFTWARE! OPTIONAL • Caller ID • Voice Upgradable •	$259


Fax
BEST SELLING

SOUND CARDS

BABY BOOMER Adlib Card • Includes Speakers, Joystick & Headphones	$49
MASTER BOOMER • 8 Bit Sound Card • Includes Speakers • Adlib and Sound Blaster 100% Compatible • Compatible w/ The Sound Features In Windows 3.1•	$69
GALLANT SC3000 • 8 Bit Sound Card • Includes Speakers, Microphone & FREE Game • Sound Blaster 100% Compatible • Compatible w/Microsoft Windows •	$85
GALLANT SC5000 • 16 Bit Sound Card • Includes Speakers, Microphone & $500 Worth Of Software.	$129
Computer Speaker System	$9
Amplified Speakers, Shielded, Volume Control	$25

FAX/MODEM

2400 Internal Modem	$25
24/96 Send Fax Modem	$29
96/96/24 S&R Fax Modem Dos/Windows	$49/$52
96/96/24 S&R Fax Modem V.42bis	$79
9600 Internal Modem V.42bis	$129
96/96/96 S&R Fax Modem V.42bis	$145
2400 External Modem MNP5	$49
96/96/24 External S&R Fax Modem MNP5	$79
96/96/24 S&R Fax Pocket Modem MNP5	$99
9600 External Modem V.42bis	$149
RS232 Modem Cable	$5
Winfax Lite For Windows	$10
Bit Fax OCR For Windows	$49

SUPER VALUES!

• Mouse-3 Button 800 DPI	$9
• Mouse-3 Button 4200 DPI	$19
• Trackball-3 Button	$19
• Trackball For Notebook	$45
• Mouse Pad	$2

• Scanner-32 Gray Scale OCR For Windows	$89
• Scanner-256 Gray Scale OCR For Windows	$149
• Color Scanner For Windows	$289
• Computer Cover	$5
• 101 Keyboard Soft Touch/Click	$19/$21
• Keyboard Drawer	$15
• Super IDE Controller 2S,1P,1G	$14
• Monochrome Graphic Card	$12
• 256K SVGA Card	$25
• 512K SVGA Card	$35
• 1 Meg Trident SVGA Card	$55
• Mini Tower/Desktop Case 200W Power Supply	$45/$49
• Medium/Full Tower Case 230W Power Supply	$69/$89
• Monitor Glass Filter 12"-14"	$19
• 14" Monitor, .28 SVGA Interlaced	$239
• 14" Monitor, .28 SVGA Non-Interlaced	$269
• 14" Monochrome Monitor	$89
• TEAC 1.44/1.2 Floppy Drive	$45/$49
• Epson 1.44/1.2 Floppy Drive	$39/$45

PARKING IN REAR OF BUILDING
2218 N. MAIN ST.
SANTA ANA, CA 92706

22 Frwy
Main
Santa Clara
5 Frwy
55 Frwy
Bristol
17th St.
STORE LOCATION

SUMMER SPECIAL SALE!

SYSTEM
386DX/40MHz $699
486SX/25MHz $725
486DX/33MHz $959
486DX/50MHz $1095
486DX2/66MHz $1170
VESA LOCAL BUS ADD $99

BASIC SYSTEM INCLUDES
• 4MB Memory
• 1.2 & 1.44 TEAC FDD
• Super IDE I/O
• SVGA w/1MB Trident
• SVGA Monitor, .28dpi
• 101 Enhanced Keyboard
• Minitower
• FREE Mouse

MONITORS
Kenitec, .28 Interlaced $239
Kenitec, .28 Non-Interlaced $259
Infinity, .28 1024x1280 N-I $289

HARD DRIVE OPTIONS
CONNER • MAXTOR • SEAGATE • WESTERN DIGITAL •
105MB $155
130MB $169
170MB $189
210MB $213
245MB $232
260MB $249
340MB $297
450MB $486

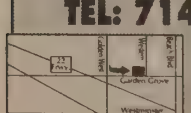
MOTHERBOARDS
386SX/33MHz w/CPU $85
386DX/40MHz w/CPU $135
486SX/25MHz w/CPU $159
486DX/33MHz w/out CPU $105
486DX/50MHz w/out CPU $105
486DX2/66MHz w/out CPU $105
VESA LOCAL BUS AVAILABLE!

FASTER THAN 486DX/33MHz,
COMPARABLE TO 486DX2/50MHz,
BUILT-IN PARADISE VIDEO ACCELERATOR
486-50/25MHz SYSTEM
19.5 MI, PS, PM, V1.17 MANUFACTURED BY IBM
ONLY $1175
486-50/25MHz System
Seagate 260MB HDD
NEC 1.2 & 1.44 Dual FDD
SVGA Non-Interlaced, .28 1024x1280
* IBM 486SLC 2/50/25 CPU Licensed By Intel
* Internal 16K Cache (Twice the 486DX Cache)
* 50MHz 486DX2 Performance (Use PowerMeter V1.17)
* 0K RAM Expandable to 32MB in Board
* Paradise WD90 C31 Window-Accelerator Built-In
* Resolution Up To 1280x1024
* 16 Million Colors, 16 Bit "True Color"
* HDD, FDD Interface and 2 Serial, 1 Parallel, 1 Mouse Ports Built-In
* FCC Class "B", UL, CSA, IS00992 Approved
* Bios Level Password Security
* WD 7600 Core Logic Chipset on Mainboard
* 3 Drive Bays Accomodate 1.2MB, 1.44MB FDD, 1 Hard Drive and 1 Tape Drive At The Same Time (Using Dual Floppy Drive)
* (110v/220v Switchable) UL Approved Power Supply
* System Built and Tested by IBM. For Less Than 1% of Defect Rate
* 5 Available 16 Bit Slots
* Complete System Available

MULTIMEDIA KIT CD
Panasonic $375
Sony (CPU-31A) $395
w/3 CD Titles, CD Music, Battle Chess, Sherlock Holmes

FAX/MODEM
FMDM-I9624I $75
FMDM-I964824G $55
FMDM-I969624G $65

PRO COMPUTER COMPANY
12761 Western Ave., Suite B, Garden Grove, CA 92641
TEL: 714/891-8293 • FAX: 714/891-3269



ONE YEAR WARRANTY
PARTS & LABOR
Business Hours:
Mon.-Fri. 8:30-6:00
Sat. 10:00-4:00
Prices and specifications are subject to change w/out notice. 15% Restocking fee on return items.

USER GROUPS

ACCOUNTING

ACCPAC & Open Systems Users Group. Meetings: 7:00 pm. Irvine. Speakers and Demos Call: (714)962-4760. [Exp. #115.]

Cougar Mountain Accounting Software User Group. Call: (818)785-5880. [Exp. #111.]

AMIGA

ATUG—San Gabriel Valley. Meetings: 3rd Sat., 11:00 am, First S. Baptist Church, 4856 N. Golden W., Temple City. Call: Steve, (818)285-6424. [Exp. #115.]

LAAUG—Los Angeles Amiga User Group. Meetings: 3rd Wed., 7:30 pm, Veteran's Memorial Auditorium, Overland Ave. & Culver Blvd. Many SIGs, rookies, monthly PD disks. Call: Kip Hammond, (310)390-3010. [Exp. #111.]

South Orange Commodore Klub—SOCK. Meetings: 3rd Sat., 9:00 am, Computer Guild, Ste. 1003, 24001 Via Fabricante, Mission Viejo. New Location. Supports Commodore and Amiga, new users SIG. Call: Don, (714)830-2430. [Exp. #115.]

APPLE

Orange Apple Computer Club. Meetings: 1st Sat., 9:00 am, Orange Coast College, Chemistry Lab. Apple II supported, presentations, and disk of the month. Call: (714)770-1865. [Exp. #115.]

Original Apple Corps, Apple II User Group. Meetings: 2nd Sun. Support for beginners through experts. Write: PO Box 90065, Los Angeles, CA 90009. Call: Fred Duffy, (310)475-8400. BBS: (310)454-4660. [Exp. #111.]

ATARI

Atari Computer Association Of Orange County. Meetings: 2nd Sun., 12:30 pm. Fullerton Savings, 12860 Euclid, Garden Grove. Open to the public. Call: Tom Mynar, (714)960-6111, after 7:00 pm. [Exp. #116.]

ATESIG—Atari 8-Bit SIG. Meetings: 145 Surf Pl., Seal Beach. Cooperative group for Model Railroad applications. Call: (310)430-5433. [Exp. #116.]

South Bay Atari Computer Enthusiasts (SBACE). Meetings: 2nd Tues., 7:30 pm, Lomita VFW Hall, 1865 W. Lomita Blvd. Active in all user interests since 1981. Call: (310)375-4839 (10am–10pm). [Exp. #116.]

COMMODORE

C128 West Commodore 128 User Group. Meetings: 3rd Wed., 18645 Arrow Highway, Rec. room. Free membership. Call: John, (818)331-1589; BBS, (714)598-1755 FidoNet. [Exp. #112.]

South Bay Commodore Users Group. Meetings: 3rd Thurs., 7:00 pm, SEC Redondo Generating Station, 1100 Harbor Dr. (across from King Yacht Harbor). Support for 64/128 computers. Open to all users of Commodore Computer equipment and those who would like to receive or exchange information on programs, applications, or hardware. Call: (310)324-8357. [Exp. # 112.]

Southern California Commodore User Group. Meetings: 3rd Wed., 7:00 pm, Church of the Nazarine Christian School, Rm. 18, 15000 Studebaker Ave., Norwalk. Supports C64 & 128 models. Call: Bill Davies, (310)599-1913. [Exp. #112.]

CORELDRAW

Association Of Corel Artists And Designers, Long Beach/Orange County Chapter. Meetings: 1st Tues., Farmers and Merchants Bank, 12535 Seal Beach Blvd., Rossmoor. National organization that provides support for CorelDraw and its associated programs. Call: Ken Wong, (310)835-6000 or (714)821-5378. [Exp. #111.]

Corel (ACAD) User Group. Meetings: 2nd Tues., 7:00 pm, Glendale Federal Bank Building, 401 N. Blvd. Product demos, Q&A. Call: Art, (213)935-1958. [Exp. #111.]

Santa Monica Corel Users. Meetings: 2nd Mon., 7:00 pm, Guest Quarters Suite Hotel, 1707 4th St., Santa Monica. Call: John Youngman, (310)399-3437. [Exp. #113.]

DESKTOP PUBLISHING

Aldus/DTP Users Group. Share ideas and gain knowledge about the standard page layout and graphic design programs on the market. Call: Dave Casad, (310)370-6269. [Exp. #115.]

Southern California Ventura Publisher User Group (SC-VPUG). Meetings: Last Tues., 7:00 pm, 401 N. Brand, Glendale, Glendale Federal Bank Building. Product demos, Q&As, library resources. Call: (818)955-5830. [Exp. #115.]

EPSON

Epson UG/Orange County. Meetings: 3rd Sat, 10:00 am, 2151 Michelson near JW Airport, Irvine. QX, PX, CP/M, VALDOCS—support, tech, periodical & disk library, and parts. Call: (714)893-3305 [Exp. #115.]

IBM & COMPATIBLES

Aldus PC SIG. Meetings: 4th Thurs., 7:00 pm, Graphix Zone, 38 Corporate Park Circle, #100, Irvine. Call: Rick Tuning, (714)549-7352. [Exp. #111.]

Coast IBM PC User Group. Meetings: Last Sat., 9:00 am, Science Hall, Orange Coast College, Costa Mesa. Speakers, BBS, software library, newsletter, and SIGs. Everyone welcome. Call: (714)843-2048. [Exp. #112.]

Greater South Bay PC User Group. Meetings: 2nd Thurs., 7:30 pm, Christ King Lutheran, 2706 W. 182nd St., Torrance. Visitors welcome. Call: (310)329-2804. [Exp. #115.]

Long Beach IBM PC And Compatibles User Group. Meetings: 3rd Wed, 7:00 pm, Masonic Temple, 1220 E. Market St., Long Beach. Novice and experienced welcome. $25/yr, $35 for a family. Call: Jim Wells, (310)439-7114. [Exp. #115.]

Los Angeles Computer Society. Meetings: 2nd Tues., 7:00 pm, Culver City High School. Live presentations and giveaways. Meetings are free. Call: (310)471-2726. [Exp. #116.]

Microlink PCUG. Meetings: 1st Sat., 6:00 pm, La Habra Sr. Center, 165 E. La Habra Blvd., La Habra. Beginners and experts welcome. Free SIG classes. N. Orange Co./San Grabiel Valley. Call: (818)961-6214. [Exp. #115.]

Orange County IBM PC Users Group. Meetings: 2nd Tuesday, 6:30 pm. Computer Learning Center, 1240 S. State College Blvd., Anaheim. Speakers, software, newsletter. Open to public, all welcome. Call: (714)990-0580 [Exp. #115.]

Pasadena IBM User Group. Meetings: 3rd Wed., 7:00 pm, 2184 N. Lake Ave., Altadena. Speakers on hardware/software, SIGs, library, newsletter, and BBS. Call: Steve Bass, (818)791-1300. [Exp. #113.]

Public Domain User Group—Los Angeles. PD software for IBM, Commodore, and CPM computers. All the latest versions. [Exp. #113.]

San Gabriel Valley/Inland Empire User Group (CHOMP). Meetings: 4th Thurs., 7:30 pm, Harvey Mudd College. Call: Eric Haakenson, (818)308-6025. [Exp. #113.]

Thousand Oaks Personal Computer Club (TOPCC). Meetings: 4th Thurs., 6:30 pm, Goebel Senior Adult Center, 1385 E. Janss Rd., Thousand Oaks. Call: (805)495-8325. [Exp. #116.]

Valley Computer Club. Meetings: 1st Wed., 7:00 pm, Burbank Board of Realtors Bldg., 2006 W. Magnolia, Burbank. BBS, PD library, SIGs, newsletter. All welcome. Call: Wes Arnold, (213)221-4433; or Grayce Hruda, (818)842-3707. [Exp. #116.]

KAYPRO

KAYOS Kaypro User Group.

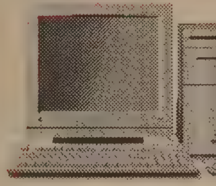
Authorized Reseller

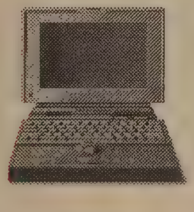
MASTERS
SOFTWARE CO

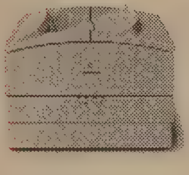
M-F 9am-5pm
(714) 479-0999
(714) 558-8419 FAX

IBM
Authorized Dealer

Classic II 4/40, 4/80	$872.39/881.67
Color Classic 4/80	$1090.49
LC III 4/80, 4/160	$1229.70/1299.30
IIvx 4/80, 5/80CD	$1206.50/$1415.31
IIvx 4/230, 8/230	$1508.12/1651.97
Centris 610 4/80, 4/80E	$1206.50/1299.30
Centris 610 8/230, 8/230CD	$1763.34/1888.63
Centris 650 4/80, 8/80, 8/230	$2227.38/2621.81/2923.43
Centris 650 8/230CD, 8/500	$3234.34/3526.68
Quadra 800 8/230, 8/500, CD	$3596.29/4153.13/4454.76
Quadra 950 8/0, 8/230	$4259.86/4640.37
PowerBook 145B 4/40, 4/80	$1438.52/1647.33
PBk 160 4/40, 4/80, 4/120	$1786.54/2064.97/2389.79
PBk 165C 4/40, 4/80, 4/120	$2366.59/2672.85/2937.36
PBk 180 4/80, 4/120, 4/120E	$3085.85/3396.75/3712.30
PBk 180C 4/80, 4/160, 4/160E	$3596.29/3897.91/4222.74
Duo 210 4/80	$1313.23
Duo 230 4/80, 4/120, 4/120M	$1995.36/2296.98/2505.80
StyleWriter II	$324.83
LaserWriter 300, 310	$756.38/928.07
LaserWriter Pro 600/630	$1716.94/2204.18
Apple Color Printer	$1392.11
Mini/Dock/Dock HD230 FPU	$510.44/770.30/1345.71
Duo Floppy Adaptor/Floppy Drive	$129.93/180.98
One Scanner/Color One Scanner	$714.62/951.28
Apple 12"/Basic/14"/16"	$194.90/301.62/487.24/1136.89
Standard/Extended/Adjustable Kbd	$88.17/148.77/194.90
Apple CD300 External	$394.4







Prices listed are cash/check/money order. Apple and IBM Authorized Dealers. Please call for pricing on products not listed here.

Desktop Systems

ValuePoint 325T 2/0, 2/80, 2/170	$696.06/835.27/997.68
VPoint 425SX 4/0, 4/170, 4/245	$1067.29/1229.69/1438.52
VPoint 433SX 4/0, 4/120, 4/245	$1276.10/1438.52/1786.54
VP 433DX 4/0, 4/120, 4/340	$1484.92/1647.33/2018.56
VP 466DX2 4/0, 4/245, 4/340	$1902.55/2273.78/2436.20

Call for prices on SpaceSaver and Mini-Tower Models

6312 14", 6314 14", 6319 15"	$385.15/436.20/542.92
6318 14"/6317 17"	$338.75/974.48

ThinkPads

300 4/80, 4/120	$1763.34/1948.96
350 4/125, 4/250	$2088.17/2529.00
350C 4/125, 4/250	$2640.37/3081.21
500 4/85, 4/170	$2088.17/2529.00
700 4/80	$2422.27
710T 4/60	$3201.86
720 4/120, 4/160	$2923.43/3076.57
720C 4/160	$4306.26

Printers

LaserPrinter E01, 5E, 6	$765.66/928.07/951.28
Laser 10, 4039-10R, 10D	$1099.77/1368.91/1856.16
Laser 4039-12R, 12L, 16L	$1716.94/2436.20/2784.22
IBM PS4079 Color Inkjet	$2519.72
PS 5183 Portable w/Express Svc	$348.0
PS 4070 w/Express Svc, & Cut Sheet	$334.11/366.59

MasterCard VISA

BUSINESS HOURS:
M-F 9am-5:30pm

MACRO Technologies

23151 Verdugo, Suite 102 • Laguna Hills, CA 92653
TEL: (714) 580•1822• FAX: (714) 770•4950
TECHNICAL SUPPORT: (714) 859-1014

CONSULTING, SALES, SERVICE & REPAIRS
Financing Available

MACRO 486 VESA LOCAL BUS

486DX2-66 LB	$1235
486DX2-50 LB	$1155
486DX-33 LB	$1009

EACH SYSTEM INCLUDES:
256K High Speed Cache • 4MB Memory On Board Exp. Up To 32MB
TEAC 1.2M & 1.44M FDD • 1MB Local Bus VGA Card • 2 Serial/
1 Parallel/1 Game • Mid-Vertical Case • 230W Power Supply
Enhanced 101 Keys Keyboard

Diamond
STEALTH

FREE MOUSE W/ANY SYSTEM PURCHASE!
NOTEBOOKS AVAILABLE!

Maxtor

MACRO SERIES

486DX-66	$1095
486DX-50	$989
486DX2-50	$935
486DX-33	$835
386DX-40	$539
386SX-40	$315

256K High Speed Cache (128K For 33/40MHz) • 4MB Memory On Board Exp. Up To 32MB (1MB for SX) • TEAC 1.2M or 1.44M FDD
• 2 Serial/1 Parallel/1 Game • Mid-Vertical Case • 230W UL Power Supply
Enhanced 101 Keys Keyboard

MOTHERBOARDS

VESA L/B 486DX2-66MHz w/256K & CPU	$695
VESA L/B 486DX-50MHz w/256K & CPU	$615
VESA L/B 486DX2-50MHz w/256K & CPU	$595
VESA L/B 486DX-33MHz w/256K & CPU	$465
ISA 486DX2-66MHz w/256K & CPU	$675
ISA 486DX-50MHz w/256K & CPU	$595
ISA 486DX2-50MHz w/256K & CPU	$555
ISA 486DX-33MHz w/128K & CPU	$419
486SX-25MHz & CPU	$219
ISA 386DX-40MHz w/128K & CPU	$151
ISA 386SX-33MHz & CPU	$105

HARD & FLOPPY DRIVES

1.2FDD	$53
1.44FDD	$49
40MB IDE HDD	$139
85MB IDE HDD	$185
120MB IDE HDD	$195
170MB IDE HDD	$235
210MB IDE HDD	$255
245MB IDE HDD	$275
340MB IDE HDD	$349
535MB IDE HDD	$940
210MB SCSI HDD	$345
535MB SCSI HDD	$939
1.2GB SCSI HDD	$1199
2.0GB SCSI HDD	$2099

VIDEO CARDS

MGP	$15
SVGA 256K 16-Bit	$33
SVGA 1MB 16-Bit	$57
SVGA 1MB Windows Accelerator Card	$73
Western Digital 1MB Windows Accelerator Card	$105
Diamond Stealth 24-Bit 1MB Windows and AutoCad Accelerator Card	$189
Orchid Fahrenheit VESA Local Bus 32-Bit	$210
Diamond Viper VLB 2MB VRAM SVGA	$409
ATI EISA/ISA 1MB VRAM SVGA	$129
Orchid Pro Designer II's 1MB 256K Colors SVGA	$155
VESA Local Bus 1MB	$115

CALL FOR ADDITIONAL OPTIONS!

CONTROLLERS

IDE w/ I/O (2S/1P/1G)	$23
IDE 2FD/2HDD	$18
I/O (2S/1P/1G)	$17
VESA Local Bus IDE w/I/O Controller	$69
Adaptec 1522 SCSI II Compatible Card Only	$109
Adaptec 1522K SCSI Host Adpater w/Software	$159
Adaptec 1542CK SCSI w/Bus Master & Kit	$279
Ultrastor 15C IDE Caching Controller exp. To 8MB	$195
Ultrastor 14F SCSI Controller 32K Cache	$210
Western Digital WD1009 16-Bit ESDI 24M-Bit Controller	$157

MEMORY AND PRINTER MODULES AVAILABLE!

MONITORS

14" SVGA 1024x768, .39dp	$227
14" SVGA 1024x768, .28dp	$269
14" SVGA N-I 1024x768, .28dp	$299
15" SVGA N-I 1024x768, .28dp	$447
MAG 15" SVGA 1280x1024, .28dp	$564
MAG 17" SVGA 1280x1024, .28dp	$1039
NEC 4FG 15" SVGA 1024x768, .28dp	$769
NEC 5FG 17" SVGA 1280x1024, .28dp	$1330
Toshiba 17" SVGA 1280x1024, .31dp	$939
Toshiba 21" SVGA 1280x1024, .31dp	$2129
Mono 14" Monitor	$105
Mono 14" VGA Monitor	$117

KEYBOARDS

101 Keyboard	$27
Focus 2001	$38
Focus 9000	$61
Keytronic KT2000	$39
Fujitsu 4700	$41

MODEMS

Internal 2400 Baud Modem	$32
Internal 96/2400 Send/Receive Fax Modem	$55
Internal 14.4 Send/Receive Fax Modem	$195
External 2400 Baud Modem	$57
External 96/24 Send/Receive Fax Modem	$85
External Pocket Size 96/24 Send/Receive Fax Modem	$115
External 14.4 Send/Receive Fax Modem	$202

MICE

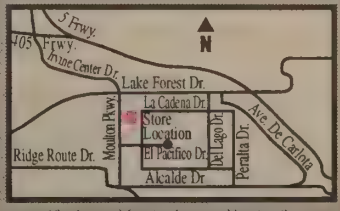
Microsoft Compatible 3-Button	$20
Microsoft Compatible 2-Button	$21
Microsoft Serial Mouse (NEW!)	$59
Microsoft Bus Mouse	$82
Trackball Mouse	$33
Black Mouse	$24

MISCELLANEOUS

Colorado 120MB	$169
Colorado 250MB	$195
Archive 250MB	$189
Sound Blaster Pro	$137
CD-ROM 350ms	$199
CD-ROM SCSI 250ms	$449

CHASSIS

MTC 959 Baby AT w/230W UL Power Supply (3x5.25", 2x3.5" Digital)	$79
MTC D2 Baby AT w/230W Power Supply (3x5.25", 1x3.5")	$68
MTC 121D Mini-Tower w/230W Power Supply (2x5.25", 3x3.5" Digital)	$67
MTC 121ND Mini-Tower w/230W Power Supply (2x5.25", 3x3.5")	$65
MTC 122 Mid-Tower w/230W Power Supply (2x5.25", 3x3.5" Digital)	$89
MTC 123 Full-Size Tower w/230W UL Power Supply (6FDD/HDD Digital)	$117
Black Color Model Available	CALL

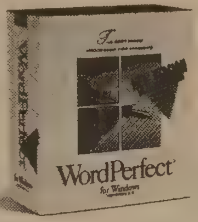


All prices subject to change without notice.

WE COULDN'T LEAVE WELL ENOUGH ALONE.

INTRODUCING WORDPERFECT® 5.2 FOR WINDOWS.

No software product — not even Windows itself — has ever gotten off to a faster start than WordPerfect® for Windows. Now, one year and 2.1 million copies later, Release 5.2 is even more powerful. With advanced features (zoom edit, drag-and-drop text), advanced capabilities (DDE and OLE support) and innovations you'll find nowhere else (QuickFinder and QuickMenu), WordPerfect 5.2 is the only word processor good enough to follow 5.1. For upgrade and competitive trade-up information, contact the retailer listed below.



WordPerfect®

UNITEK
computer stores
AUTHORIZED DEALER
12024 Wilshire Blvd. West Los Angeles, CA 90025

Retail & Corporate Sales
FAX (310) 826-1455
(310) 820-2400

WordPerfect is a registered trademark of WordPerfect Corporation within the United States and other countries. All other brand and product names are trademarks or registered trademarks of their respective companies. © WordPerfect Corporation 1993.

COMPAQ
Authorized Dealer & Service Center

Deskpro 3/25i, M120w	$1250
Deskpro 3/33i, M120w	$1370
Deskpro 4/33i, M120w	$1661
Deskpro M 4/16s, M120w	$1350
Deskpro M 4/33, M120w	$2254
Deskpro M 4/50, M120w	$2590
Deskpro M 4/66, M120w	$2802
Compaq VGA monitor	$225

Available Immediately !

EPSON
Authorized Dealer & Service Center

AP 3250	$198
LX-810	$178
LQ-570 24pin	$275
FX870/117	$268/$358
LQ-870/1170	$444/$598
LQ-1070/2250	$395/$898
DFX-5000	$LOWEST
ActionLaser 1000	$654
EPL-8000 Laser	$898

Prices subject to change w/o notice. All prices reflects 3% cash discount

Macintosh
Authorized Dealer & Service Center

Classic Color 4/80	$1265
LC III 4/160	$1285
Centris 610 4/80	$1579
PowerBook 165c	$2398
Stylewriter II	$309
Laserwriter Select 300	$725
Laserwriter Select 310	$956
Laserwriter Pro 600	$1998
Quadra 950 16/1000	$6398
Apple CD-150	$439
Apple CD-300	$559
14" Color Display	$479
Extended Keyboard	$147
Adjustable Keyboard	$198
Keyboard II	$85

IBM·Lexmark
Authorized Dealer & Service Center

PS ValuePoint, PS/2 Systems, ThinkPad,Networking products & Accessories	Pls call

SPECIAL

IBM/Chinon Inkjet Port. Printer.	$189
Compaq Deskpro 3/16,M30.	$590

Better Domain, Inc.
8919 Reseda Blvd., Northridge, Ca 91324
Tel:818-886-5511 Fax:818-886-5583

Corp. Accounts, Govt. & Schools Welcome !
We Accept all major credit cards !

USER GROUPS

Meetings: 4th Mon. of even months, 6:00 pm, El Segundo Library. Call: (310)379-8339. [Exp. #115.]

MACINTOSH

Los Angeles Macintosh Group (LAMG). Meetings: 3rd Thurs., 7:30 pm, Dept. of Water & Power, 111 N. Hope St. So. Cal's largest all-Mac user group meetings, monthly magazine, classes, PD software, and more. Call: (310)278-LAMG. [Exp. #112.]

Orange Apple Computer Club, Macintosh User Group. Meetings: 1st Sat., 1:00 Pm, Chemistry Lab, Orange Coast College. Presentations and club disks. Call: (714)770-1865 [Exp. #115.]

Original Apple Corps, Macintosh User Group. Meetings: 2nd Sun. Support for beginners through experts. Write: PO Box 90065, Los Angeles, CA 90009. Call: Fred Duffy, (310)475-8400. BBS: (310)454-4660. [Exp. #113.]

San Gabriel Valley Mac User Group. Meetings: 1st Thurs., 7:30 pm, Pasadena Central Library Aud., 285 E. Walnut. Call: (213)684-ICON. [Exp. #111.]

South Bay Apple Macintosh User Group. Meetings: Last Wed., 7:30 pm, Pacific Elementary School, 1214 Pacific Ave., Manhattan Beach. Call: (310)644-3315. [Exp. #115.]

Whittier Area Mac User Group. Meetings: 2nd Sat., 10:00 am, Christian Family Friendship, 11209 First Ave., Whittier. Call: (310)947-2447. [Exp. #111.]

MULTIMEDIA

Multimedia Audio Technology Group. Multiple platform, multimedia audio presentations. Call: Chris Palmer, (818)364-2577. [Exp. #116.]

The International Interactive Communications Society, LA Chapter. Meetings: 7:30 pm, Electronic Cafe, 1649 18th St., Santa Monica. Free for members, $10 for nonmembers. Call: (310)535-1293. [Exp. #116.]

NEXTSTEP

Southern California NeXTSTEP User Group. Meetings: throughout LA County. Call: Mike Mahoney, (310)985-1550. Email: mahoney@csulb.edu. [Exp. #116.]

OS/2

West LA OS/2 User Group. Meetings: 1st Wed., 7:30 pm, IBM, 2525 Colorado Place, Santa Monica. Catering to the technical needs of the corporate community. Call: Tracy Ragan, (310)285-3155. [Exp. #112.]

PROGRAMMING LANGUAGES

Business BASIC Users Of Southern California (BBUSC). Meetings: 6:00 pm, Cerritos Sheraton, Cypress Rm., 12725 Center Court Dr., Lakewood. An executive forum for business solutions using Business Basic software. Call: Christian Brantley, (714)379-5454. [Exp. #115.]

San Fernando Valley C++ User Group. Meetings: 7:00 pm, HP Bldg., Van Nuys. Speakers, discussions, demon., etc. on C++ and OO technology. Call: (818)332-8879. [Exp. #116.]

SGML

SGML (Standard Generated Markup Language) User Group, Southern California Chapter. Discussions, presentations, tutorials, networking, and educational forums applying to SGML. Call: Roger Watson, (310)337-0309. [Exp. #116.]

TEXAS INSTRUMENTS

UGOC. Meetings: 2nd Mon., Fidelity Federal, 13820 Seal Beach Blvd. Call: John Bolda, (310)421-1827. [Exp. #113.]

VIDEO TOASTER

Digital Video Forum. Meetings: 3rd Wed., 6:00 pm, Pacific Video Products, 1100 Gene Autry Way, Anaheim. The Video Toaster and associated devices and software is the primary interest. Broad focus of group is the rapidly evolving world of Video/Graphics. Call: Scott Davis, (714)647-5822. [Exp. #112.]

VIRTUAL REALITY

Virtual Reality Special Interest Group (VRSIG). Meetings: The Electronic Cafe, 1649 18th St., Santa Monica. Call: Dave Blackburn, (310)545-0369. [Exp. #112.]

MICROTIMES™

Is Your Listing Missing?

Free user group and association listings are limited to the group's name and a ten-word description, including the mailing address and contact phone number. They will be **deleted at six-month intervals** to ensure timeliness and accuracy of information. **Free BBS listings** are also limited to the board's name, sysop's name, and a ten-word description including parameters, baud rate, phone number, and registration fee. Because we have an ongoing problem of boards shutting down without telling us, much to the annoyance of would-be callers and the new phone number's owner alike, we will **delete these listings after they've run three months.**

You can update or renew your listings at any time. If yours is missing, send us a new one! Send your listing information to: US Mail should go to: MicroTimes User Group, 3470 Buskirk Ave., Pleasant Hill, CA 94523. **Faxes** are welcome at (510)934-2417 or (213)851-8303.

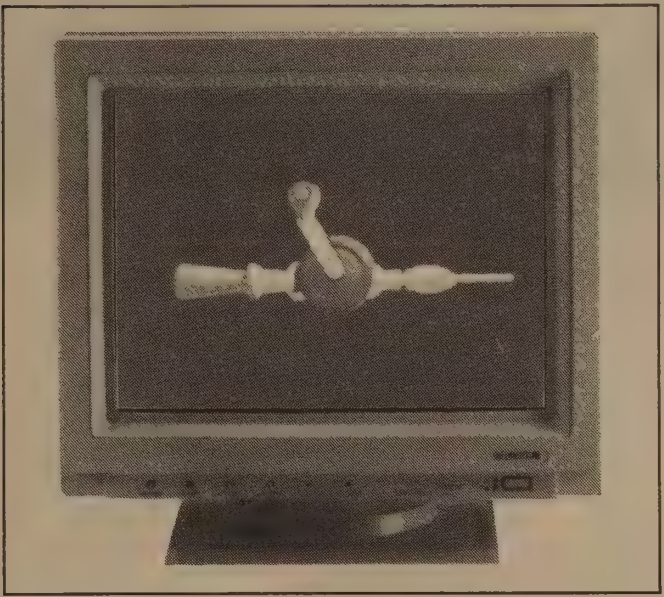
Email can be sent to: microx@well.sf.ca.us. Or MCI:MICROTIMES.

SHAMROCK

The Full Screen Monitor

Don't Be Fooled By A 14" Monitor That Has A 12" Screen
Buy Shamrock For A True 14" Screen Color Monitor

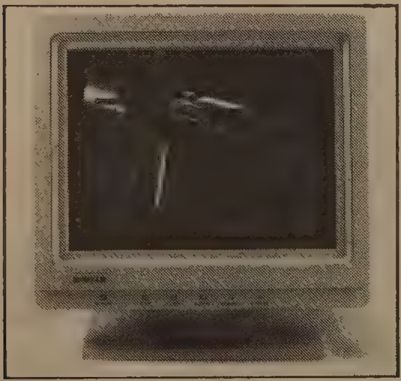
NOW AVAILABLE
17" FLAT SQUARE MONITOR



- Horizontal Frequency: 27-80KHz
- Resolution: Maximum 1600x1280 (Non-Interlaced) .28mm CRT
- Compatible With Apple Mac II
- Refresh Rate: 70Hz at 1280x1024
- VESA Standard

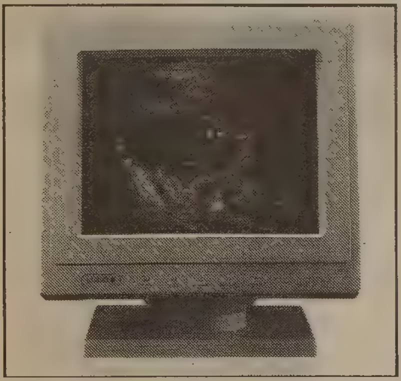
SRC-1403/SRC-1501 14", 15" HYPER VGA III

- Horizontal Frequency: 28-64KHz
- Resolution: Maximum 1280x1024 (Non-Interlaced) .28mm CRT
- Compatible With Apple Mac II
- Refresh Rate: 70Hz at 1024x768
- VESA Standard
- Automatic Pin Cushion Compensation



SRC-1451 14" HYPER VGA I

- Horizontal Frequency: 30-38KHz
- Resolution: Maximum 1024x768 (Interlaced) .28mm/.39mm CRT
- Full Screen
- Universal Power Supply 110/220
- Compatible With Apple Mac II
- Low Radiaton Options

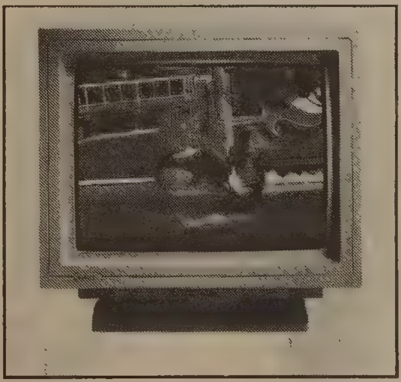


SRC-1452 14" HYPER VGA II

- Horizontal Frequency: 30-38KHz, 47-50KHz
- Resolution: Maximum 1024x768 (Non-Interlaced) .28mm CRT
- Full Screen
- Universal Power Supply 110/220
- Compatible With Apple Mac II

SRC-1901 20" HYPERSCAN COLOR UNITS

- Horizontal Frequency: 27-72KHz
- Resolution: Maximum 1280x1024 (Non-Interlaced) .31mm CRT
- DBF (Dynamic Beam Forming)
- BNC And D-Sub (9-Pin) Input
- Compatible With SPARC Station 1152x900 And Apple Mac II 1152x870 (Dual Page)

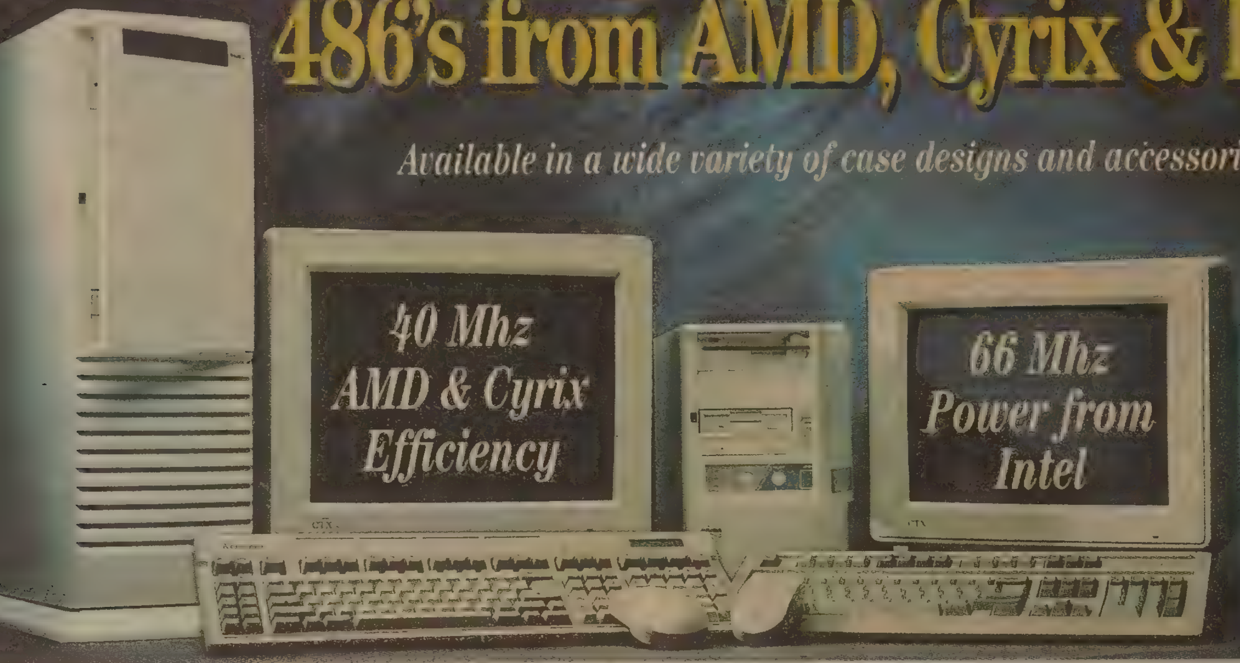


FOR PURCHASING AND/OR OTHER INFORMATION, PLEASE CONTACT YOUR LOCAL COMPUTER DEALER.

Maximus presents "the power to choose"...

486's from AMD, Cyrix & Intel.

Available in a wide variety of case designs and accessories!



NEW!

AMD 40Mhz "Maxi-VA+"

- 2-Slot VL-Bus main logic board
- New AMD 486-40 CPU, with built-in 8K CPU cache & *487 math coprocessor!*
- 8 MB RAM, 128K write-back cache
- 250 MB 12ms IDE HD, 64K cache
- True 32bit VL-Bus IDE hard drive controller—*up to 4.0 MB/sec DTR!*
- 15" Flatscreen SVGA-NI, flicker-free .28dp, 1280x1024—*Low Radiation!*
- True 32bit VLB S3-805 Windows™ Accelerator, 1MB, 1280x1024, to 16.7 million colors—*15 WinMarks in WinBench 3.1!*

$1745

Cyrix 40Mhz "FasMax-VLc"

- 32bit Cyrix 486DLC-40 CPU, *3-Slot VL-Bus, FasMath coprocessor!*
- 4 MB RAM, 128K write-back cache
- 170 MB 15ms IDE HD, 64K cache
- 14" Flatscreen SVGA-NI, .28dp 1024x768—*Flicker Free 72 hz !*
- True 32bit VL-Bus Windows™ Accelerator, 1MB, 1280x1024, to 16.7 million colors—*9 WinMarks in WinBench 3.1!*

$1195

VL-Bus S3-805 Windows Accelerator—add $95
Up to 14 WinMarks in WinBench 3.1 !

Cyrix 40Mhz "Maxi-VLc"

- 32bit Cyrix 486DLC-40 CPU, *3-Slot VL-Bus, FasMath coprocessor!*
- 8 MB RAM, 128K write-back cache
- 212MB 12ms IDE HD, 64K cache
- True 32bit VL-Bus IDE fast hard drive controller—*up to 4.0 MB/sec DTR!*
- 15" Flatscreen SVGA-NI, .28dp 1280x1024—*Low Radiation!*
- True 32bit VLB S3-805 Windows™ Accelerator, 1MB, 1280x1024, to 16.7 million colors—*14.0 Video WinMarks!*

$1535

Full-sized 10-bay vertical case, 2 fans, 250W —add $85

Intel 66Mhz "Turbo-VL"

- 32bit Intel 486DX2-66 CPU, 2 VL-Bus Slots, *with built-in math coprocessor!*
- 4 MB RAM, 128K write-back cache
- 212 MB 12ms IDE hard drive, 64K cache
- True 32bit VL-Bus IDE hard drive controller—*up to 4.0 MB/sec DTR!*
- 14" Super VGA, non-interlaced .28dp, 1024x768—*flicker-free 72hz!*
- True 32bit VLB Windows™ Accelerator, 1MB, 1280x1024, to 16.7 million colors—*up to 9.1 WinMarks in WinBench 3.1!*

$1595 486DX2/50 **$1475**

Intel 66Mhz "Maxi-EVS"

Combination EISA & VL-Bus

- 32bit Intel 486DX2-66 CPU, 2 VL-Bus Slots, *with built-in math coprocessor!*
- 8 MB RAM, 256K write-back cache
- 250 MB 12ms SCSI-2 HD, 256K cache
- True 32bit VL-Bus SCSI-2 hard drive controller—*up to 10 MB/sec DTR!*
- 15" Flatscreen SVGA-NI, flicker-free .28dp, 1280x1024—*Low Radiation!*
- True 32bit VLB S3-805 Windows™ Accelerator, 1MB, 1280x1024, to 16.7 million colors—*15 WinMarks in WinBench 3.1!*

$2075 486DX2/50 **$1955**

Maximus proudly presents "the power to choose"—now with your choice of the best of today's new 486 powerhouse PCs! Here are 5 new systems from dozens we have ready to choose from based on CPUs from AMD, Cyrix and Intel...

If you're interested in day-to-day average Windows applications, the new efficient Cyrix or AMD CPUs may be exactly the right solution for you. As you can see, even the economical Cyrix 40Mhz version of the 486 chip outpaces the Intel-33—at a cost that is $100's less!

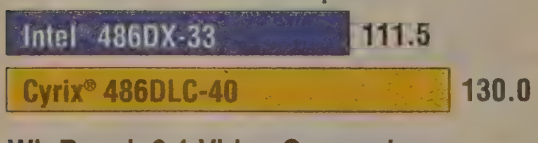
Above you'll see two great Cyrix-powered 40Mhz systems ranging from $1265 to $1645—each delivering more power than similarly configured Intel-33Mhz systems. That much power at these prices is hard to resist!

The new AMD 40 Mhz chip was years in development and now brings even more power to your desk at very reasonable prices. This CPU has exactly the same specifications (8K onboard CPU-cache and built-in 487 coprocessor) as the Intel 486—except, of course, it runs almost 25% faster. And, naturally, it comes to you for $100's less! A look at our basic AMD-driven local bus system above gives you the idea. For $1825, you'll get a CPU that runs 25% faster than Intel's 33Mhz 486DX, a 250MB HD working at 4MB/sec across the local bus (about 7-times faster than ISA speeds) and an S3-805 Windows accelerated video card that runs at 15 WinMarks in WinBench 3.1 (about 8-times SVGA video speeds). Only Maximus delivers so much for so little!

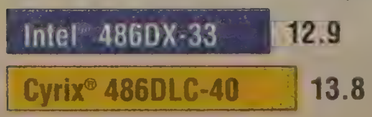
Finally, if you need the very peak in CPU performance, *nothing* beats the Intel 66Mhz version of the 486 CPU. Look at the HD speed you'll get from our 66Mhz Intel systems... call us and we'll show you in person!

For peace of mind, you can't beat Maximus' unexcelled consumer protection plan...

Landmark 2.0 CPU Comparison



WinBench 3.1 Video Comparison



640x480 (tested on the same S3-805 video card)

All Systems Feature

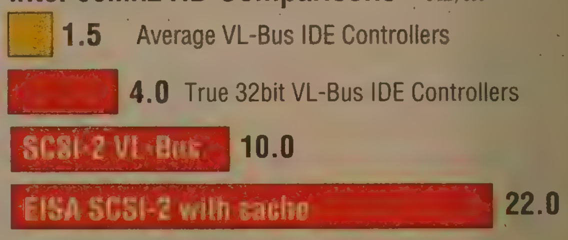
- Both 1.2 and 1.44 MB floppy drives
- Enhanced 101-key keyboard
- 2 serial, 1 parallel, 1 game I/O ports
- High resolution 3-button serial mouse

Maximus System Warranty

Each Maximus system is warranteed by our complete consumer protection plan, including...

❶ Maximus rigorous 72-hour burn-in testing period
❷ A Full 12-month Parts & Lifetime Labor Warranty
❸ Our 24-hour BBS Support System
❹ Lifetime Free Technical Support

Intel-66Mhz HD Comparisons *MB/sec*



MAXIMUS

710 EAST CYPRESS AVENUE UNIT-A, MONROVIA, CA 91016

818.305.5925

FAX 818.357.9140 • HRS MON-FRI 7-7, SAT 9-5
CUSTOMER SERVICE 818.305.5948

ALL SYSTEMS FCC APPROVED PRICES SHOWN ABOVE ARE CASH PRICES ONLY

ALL LOGOS & TRADEMARKS ARE THE PROPERTY OF THEIR RESPECTIVE COS ©1993 MAXIMUS COMPUTERS

Corporate PO's Accepted (oac).
Government Agency & School PO's Accepted.

Multi Media & beyond

Rock 'N' Roll;
Amiga Multimedia;
SIGGRAPH Preview

CALA
Crazy
Runaway
ck of the Bay
Stand By M
Midnight Hour
Twist and Sha
ntinuous Play
Quit
WURLITZER

THE NEXT-GENERATION

X-128-MB
intel inside
QUALITY TIME COMPUTERS
FREE
FREE SOUND CARD

EXPANDABLE

UP TO 128MB!

BATTERY LIFE

10 YEARS!

RAM SPACE..THE FINAL FRONTIER!

16 MILLION!
COLORS!
WINDOWS
ACCELERATOR!

NEW TECHNOLOGY!
UP TO 128 M-E-G-A BYTES!!
OF RAM (COMPARE UP TO 32 MB)
as seen on pentium systems!

250MB HD!
MONITOR 1024x768 **SVGA**
up to 800x600 non-interlaced!
4 MB RAM; 1.44 MB & 1.2MB EPSON!
2 serial & 1 parallel & game
MITSUMI keyboard

VIRUS PROTECTION! - 10 YEARS BATTERY LIFE!

intel inside

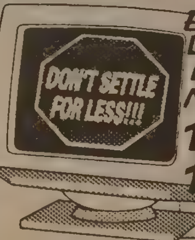
486DX66 *plus* $1459
life time warranty!
built-in heat sink!

486/100 Mhz
UPGRADABLE!
486DX66 $1389
486DX33 $1169
486SX25 $999; 386/40 486 UPGRADABLE $959

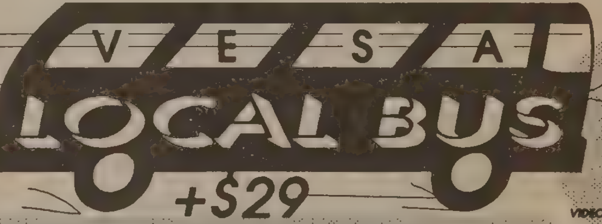
OPTIONS

130MB -$55 ($159)
250MB .... ($229)
PORTABLE HD +$29 345MB +$89 ($319)
ask for our 90 days interst-free credit!

IBM-IBM-IBM-IBM
486/50 $1079
486/66 $1199


DON'T SETTLE FOR LESS!!!

EMC! +$49 ($249)
LOW RADIATION!!!
EXCELLENT QUALITY!
NON-INTER! +$79 ($269)
15" +$219 ($429)
17" +$399 ($619)
Goldstar or Samsumg

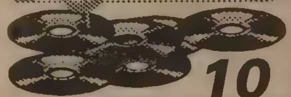


+$29

+$99 ($149)
S3 inside!
VIDEO ACCELERATOR
up to 2MB!
"THE BEST CHOICE!" - INFOWORLD 3 93

VLB VIDEO & VLB IDE +$69 ($129.99)

SOUND SYSTEM SOUND BLASTER +$29!
COMPATIBLES 16 BIT CD QUALITY +$99!
logitec! ($119!)



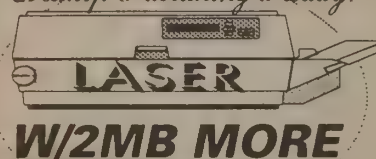
CDROM +$179
FAST 350MS
10 CD'S $139
ANIMALS, CHESS 3000, FAMILY CHOICE, GUINESS, REFERENCE LIBRARY, SHERLOCK HOLMES
US ATLAS W AUTOMAP, WORLD ATLAS, SPORTS BEST, ARTHUR TEACHER TROUBLE

2400 MODEM $25.99
9600 FAX/MODEM $39.99
14,400 MODEM/FAX $154.99

MS WORKS WIN 2.0 $59!
QUATTRO PRO WIN $69.95!
MS OFFICE $199, MS MOUSE 39!

FREE! BRING YOUR **BEST SLIDE** AND WE'LL SCAN IT FREE!!!
COMING SOON, LIMITED 1 PER PERSON

Desktop Publishing Ready!



W/2MB MORE
OKI 400 $559
CANON BJ-200 $279

AGGRESSIVE PRICING!

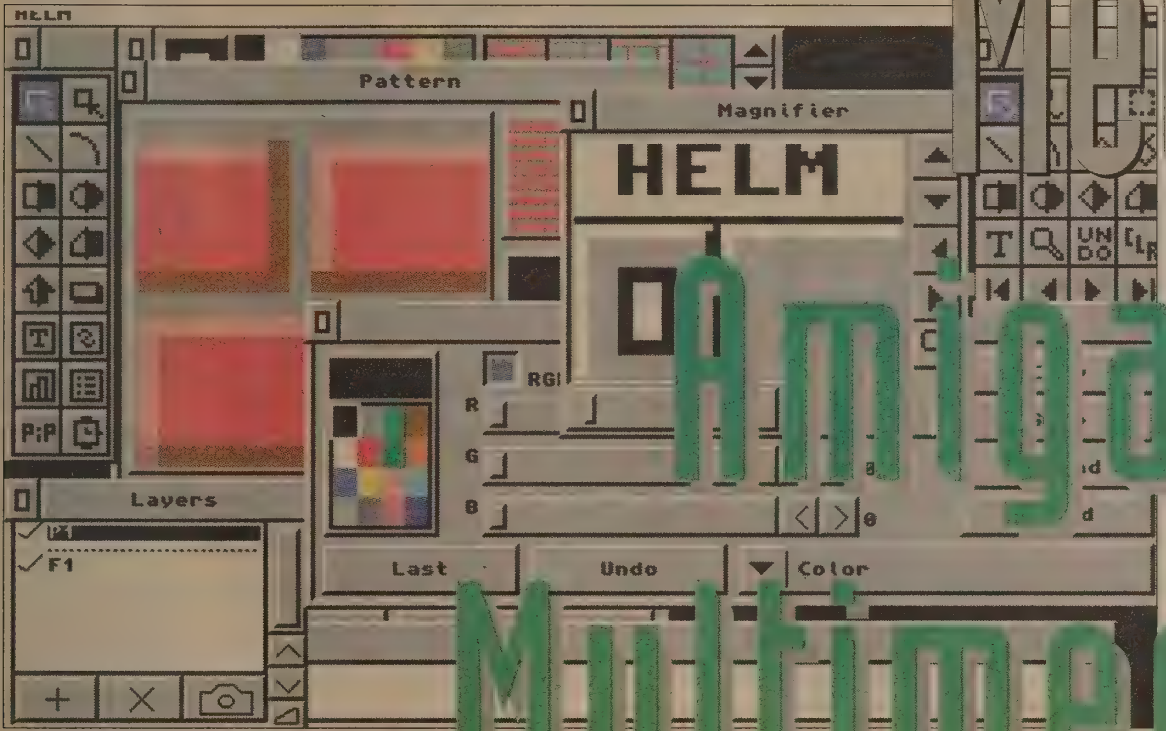
"NO DOWN-TIME" WARRANTY! EXCLUSIVE!
90 DAYS INTEREST-FREE CREDIT!
HONEST & KNOWLEDGEABLE STAFF!
ONLY 1.9% SERVICE CHARGE! *compare up to 6%*

2000
ITEMS PRICE LST
CALL!

QUALITY TIME COMPUTERS 700-0411 (818)

21048 DEVONSHIRE ST. #104
CHATSWORTH, CA 91311

Multi Media & beyond



Amiga Multimedia

Part II

BY DOUGLAS J. NAKAKIHARA

Copyright © 1993 by Douglas J. Nakakihara. All rights reserved.

Deciding on a multimedia computer platform shouldn't be a popularity contest. What the Amiga lacks in installed base is more than made up in performance. For example, a stock Amiga 1200HD, with a street price of under $800, provides fast graphics, 256,000 colors, NTSC compatibility with composite video output, 4-channel digital audio, a stable preemptive multitasking OS, and much more. Other platforms either don't offer all of these features or require additional hardware and software.

For many multimedia applications, like kiosks and presentations, it just doesn't matter if you use a non-mainstream PC. Additionally, there is some top-notch software available.

Last month we looked at a few Amiga multimedia products; this month we'll finish up with two more: Scala Multimedia MM210 and Helm.

SCALA MULTIMEDIA MM210

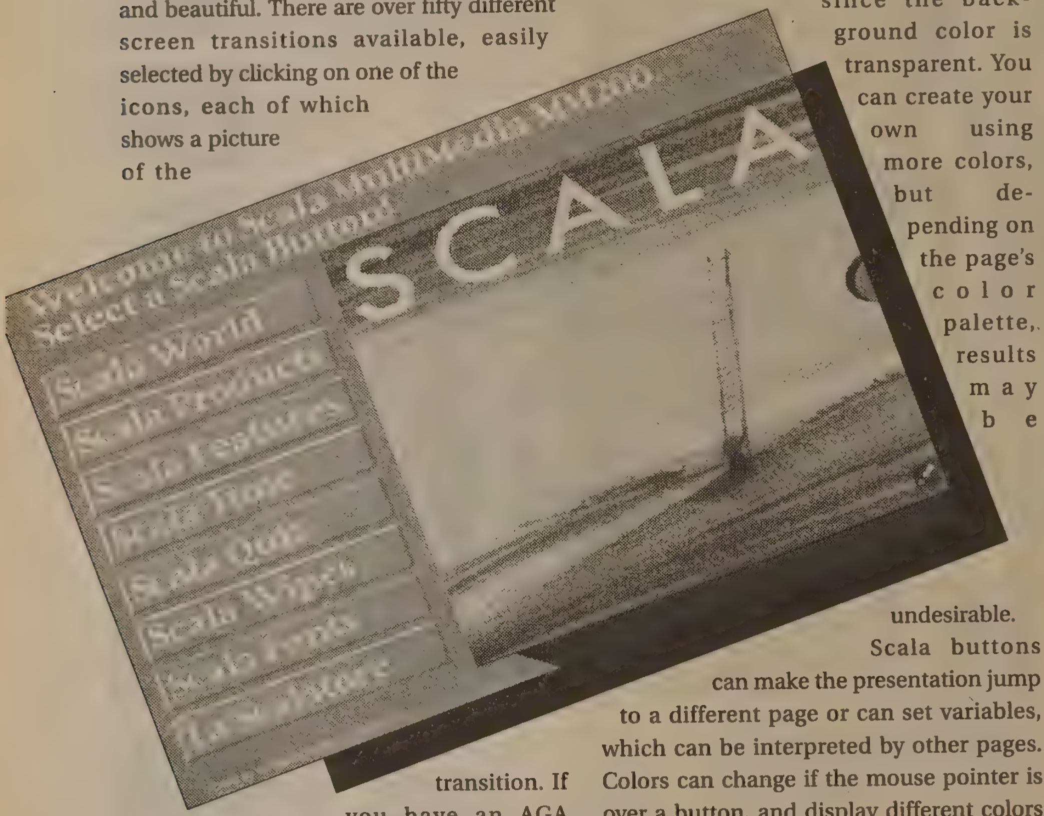
You'll find nearly everything you'll need to create professional presentations in Scala Multimedia MM210. Scala uses a flashcard-like approach; where each card (called a "page") controls the graphics, audio, etc. While other authoring packages expect the user to supply all of the pieces to the puzzle, Scala supplies a nice selection of background images, clip art, and fonts.

The sixty-four background images cover a variety of subjects like stones, clouds, fabric, grass, etc. Unless you have a very specific need, you probably won't need to create any yourself. All the backgrounds have been carefully designed using a special color palette scheme. Forty different color palette sets are provided, and you can create your own if you need to.

Scala backgrounds can use any of the palette sets without distorting the image.

For example, a blue fabric background can be easily changed to yellow fabric, or red. Palette editing tools like swap, spread, and copy, as well as color cycling, are also featured.

By using uniform color palettes, transitions between screens are smooth and beautiful. There are over fifty different screen transitions available, easily selected by clicking on one of the icons, each of which shows a picture of the transition. If you have an AGA Amiga, the fade and superimpose wipes utilize a 24-bit palette for super-smooth transitions.



Scala incorporates powerful text handling features with word processor-like control—word wrap, margins, and adjustable tab stops. Adjustable text attributes include color, outline, shadow, 3-D, underline, bold, and italic. Lines of text can be left-, center-, or right-justified. Every line of text can have different attributes. Shadow length and direction, character and line spacing, underline distance, etc. are all adjustable. An adjustable invisible grid feature allows easy alignment of text when moved. These settings can be saved for later use. Scala also supports color fonts and Workbench scalable Bullet fonts.

Each line of text can be "wiped" onto a page in fifty different ways. This can add a lot of excitement and interest to an otherwise dull, static display. Though these are generally referred to as wipes, they also include animated effects where the text flies in from off screen.

Graphic brushes (i.e., clip art) can be placed on the screen too. These can utilize all of the same effects available for text, like wipes, shadow, etc. Scala comes with many predesigned two-color brushes like arrows, lines, and universal symbols (e.g., No Smoking, Taxi, Train, etc.). They actually appear as one color since the background color is transparent. You can create your own using more colors, but depending on the page's color palette, results may be undesirable.

Scala buttons can make the presentation jump to a different page or can set variables, which can be interpreted by other pages. Colors can change if the mouse pointer is over a button, and display different colors if the mouse is clicked.

Scala provides a way to define the color change in a unique and wonderful way: The color palette is displayed left to right, with a duplicate palette just below. The top palette indicates any possible color used on the screen; the bottom palette indicates what color the color above it should change to. So if you change the color below red to yellow, any part of an object that was yellow would turn red, if selected using the mouse.

Pages can also identify anims to be played. Playback from disk, preloading, dynamic and static buffering are supported. The supplied AnimLab utility allows normal Anim5 format animations to be converted into special formats that Scala can play back at a greater frame rate.

Non-displaying pages can execute other programs or ARexx scripts. They can also set variables and interpret variables to cause something to happen.

As far as sound is concerned, Scala supports IFF samples and SMUS, as well as Soundtracker and DSS music modules. If you have sampler hardware, Scala has a built-in sampling feature with basic editing capabilities. You'll still probably want to use dedicated sampling software to do any serious sound editing.

Pages are normally displayed in a vertical listing. However, the shuffler mode presents the script in a storyboard fashion, where a miniature picture of each page appears on the screen. This allows an intuitive way to arrange and select pages.

Scripts are saved in ASCII format using a language called Lingua. All Lingua commands are also available in ARexx, and Scala scripts can be directly saved in ARexx format. This allows Scala to act as a multimedia engine dynamically interacting with other ARexx-aware programs. Scala's EX system provides a modular way to add new features. Current modules provide support for Videodisc players, MIDI files, CDTV, and ECS genlock control.

The file requestors are very nice and include preset buttons to bring up directories containing backgrounds, scripts, animations, etc. You can even define your own buttons if you wish. Scala is highly configurable, and allows you to set many preferences according to your own tastes and needs.

Scala supports the creation of runtime modules and comes with a detailed manual in a three-ring binder. The inclusion of pictures of the backgrounds and fonts in the manual is a nice touch and a time saver. The manual needs a little updating (and spellchecking) as I found the tutorial a little difficult to follow because of changes made to the program.

The only real gripe I have with Scala is the dongle. This copy-protection device fits in one of the mouse/joystick ports. Fortunately, it does have a pass-thru connector. However, lose it and you're done for. To make matters worse, even the player utility requires the dongle! This means that you cannot freely distribute any of your creations. It's too bad that the people behind Scala feel that this is necessary.

Dongle aside, Scala is the ultimate multimedia program available for the Amiga. Its interface is straightforward and easy to use, and advanced users can utilize its scripting features for even greater power and flexibility.

HELM

Helm is an exciting new authoring package from Eagle Tree Software. Helm takes a

RESOURCES:

Scala Multimedia 210, $495
Scala Incorporated
12110 Sunset Hill Rd., Ste. 100
Reston, VA 22090
(703)709-8043

Helm, $129
Eagle Tree Software
P.O. Box 164
Hopewell, VA
23860
(804)452-0623

The Electronic Music Box

L.A.'s Midi-Music-Digital Audio Experts

PC MultiMedia

Complete System!

CD Rom w/Free CDs, Speakers & More!

486DX-33 CPU
512k video
1024x768 monitor
85mgHD
keyboard
mouse
Dos 6.0
Windows 3.1
PC200mkII Midi Kybd
SndBlaster Mult. Kit
Installation & Training

$2299

Apple® Peavey

Music Starter System

Classic II 4/40
EZ Music Starter Kit:
Book of Midi
EZ Vision
Band in a Box
Interface
Peavey DPM2
DPM2 Library
260 Drum Patts
Installation
Training Included

$2599

Complete with Velocity, Multitimbal Keyboard

SAVE $1000!

Mackie Mixers
On Sale from $319

Peavey Keyboards from $799

Roland Keyboards from $199

PC Sound cards from $49

Music Software Closeouts from $5

PC Turtle Beach Systems Roland

MultiSound Midi System

486DX-33 CPU
512k video
1024x768 monitor
340mgHD
keyboard
mouse
Dos 6.0
Windows 3.1
PC200mkII
Cakewalk Win
Installation & Training

$3283

Plays 2 Tracks of Digital Audio w/Proteus/1xr Midi Sounds

Apple and the Apple Logo are registered trademarks of Apple Computer, Inc.

Authorized Apple VAR EZ Financing by BenCharge. EZ Start up Leases for Businesses. Call for Details!

DigitalAudio Peavey Roland digidesign Over 1000 Midi/Music Programs in Stock!

We Feature Allen & Heath, Digidesign, Mackie, Mark Of the Unicorn, Opcode, Passport, Peavey, Roland, Steinberg Products & More!

Sound Source Audio Clips
Star Trek, 2001, Terminator Mac or PC
NO SOUND CARD REQUIRED $39

☆ Software Spotlight ☆

Students **3.0 Mac Finale Update** Faculty

- Realtime or Step Input Notation
- Create or Edit Symbols
- Automatic Chord Creation
- Easy to use!

$89 Academic update too!

Offer restricted. Call Store for Details

Finale Users Group July 28
Computer Swapmeet Pomona July 17

Cubase Score Win $440

260 Drum Patterns $24

Atari Falcon Cmptr Sale

FREE TRAX
Sequencer ($100 value) with
MusicTime
Notation purchase

PG Band in the Box $69

Midi Interfaces From $50

Roland E 10 Kybd $549

Over 100 Midi Books from $5

- ♦ Private Tutoring in your home or studio by the experts
- ♦ Free Phone support on products purchased from us.
- ♦ Sign Up Now for Our Sequencer & Notation Courses-Performer, Cubase, Vision!!
- ♦ Rent Time on Our Atari, PC or Mac for $8/hr.
- ♦ Laser Print Outs $1/page!

→ Music/Midi BBS (818) 789-4287

Monday Night Midi Seminars
The Free EASY Introduction to Midi. Limited Seating. Call!

14947 Ventura Blvd. Sherman Oaks
(818) 789-4250

WHAT YOU'VE BEEN WAITING FOR IS FINALLY HERE...

commodore
AMIGA
HOT NEW SYSTEMS!

Once Again, We're The New Kids On The Block!

*Monitor Optional

Once again, your friends at Compuhelp, bring you the latest and greatest from the amazing world of Commodore Amiga. We know that once you see these new systems, you'll want one for yourself, so we invite you to come down and give one a test drive.

With features like Advanced Graphics Architecture and CrossDOS for reading and writing MS-DOS® files, you can do it all. From games and word processing to intricate video and animation. You also get a 24-hour helpline and on-site service.**

Amiga 600, 1200 And 4000.
When Quality Comes First.

AMIGA 600
$299
W/40MB
$499

AMIGA 1200
$547
W/80MB
$799
W/120MB
$899

AMIGA 4000
030
$1699
040
$2650

PROFESSIONAL DESKTOP VIDEO

VIDEO TOASTER SYSTEMS - DESIGNED WITH YOU IN MIND!

BEGINNER
AMIGA 4000-030 with
- 120MB Hard Drive
- 6MB Ram
- Video Toaster 4000
- Monitor
$137 per mo. or cash $4499

NEW!
VIDEO TOASTER 4000
NewTek changes the Rules of Video Production, Again!

PROFESSIONAL
AMIGA 4000-040 with
- 120MB Hard Drive
- 10MB Ram
- Video Toaster 4000
- Monitor
$195 per mo. or cash $5499

Video Toaster Now Available For MACINTOSH
(ToasterLink) Only $399
NewTek Authorized Dealer

THERE'S ONLY ONE PLACE TO SHOP

COMPUHELP COMPUTERS

SYSTEM UPGRADES AVAILABLE.
Come in for a Free Estimate.
EASY FINANCING!

16131 VICTORY BLVD., VAN NUYS
(2 BLOCKS WEST OF 405 FWY)
FAX (818) 901-7465 Mon-Fri 10-7 Sat 11-5
818-901-0280

SHERMAN WAY
VANOWEN
VICTORY BLVD
101 FWY
BALBOA
WOODLEY
405 FWY

Prices Reflect 3% Cash Discount

unique approach to creating applications. In effect, you modify and configure the Helm interface itself until it becomes your application—there is no explicit "save" function. When your application is complete, you can limit an end-user's ability to make modifications. This is markedly different from other Amiga authoring programs, like Scala, where you create a separate application using the main program's interface. (Helm is said to be loosely based on HyperCard, available on the Macintosh.)

Helm's menus are fully configurable and context sensitive. For example, the image menu items are only visible if one of the paint tools is selected. Floating tool boxes provide access to many of Helm's editing tools. Helm also uses pop-up menus, selected with the right mouse button, which generally provide configuration settings for a particular function.

A Helm application is called a "book," which is made up of "pages." Every page has at least one "layer," and any number of objects can be placed on a layer. By using multiple layers, you can independently manipulate the visibility of objects. Normally, objects hold an image or text. Full-screen backdrops can be added by loading an image into an object that takes up the entire screen. As you might expect, any object can act as a "hot spot" and cause a predefined operation to take place.

All objects have extensive configuration settings which vary with the object type, like color, font, background, button type, shadow, border, placement, etc. Several predefined texture patterns are available to use as object backgrounds. Helm provides full control over image objects, including the ability to directly edit them using an extensive set of paint tools with AGA and ANIM support, which can be incorporated into your application.

Helm provides a host of built-in button images with configurable attributes, including commonly used gadgets, like Cycle, Check Box, Multiple and Single Choice, Radio, Palette, Scrolling List, File Requestor, and Sliders gadgets. Additionally, objects can be created using structured drawing tools. There are text objects too that can have actions attached to blocks of text, in hypertext fashion. Helm also features built-in chart object functions.

Images and text can be linked to external files as well as loaded into Helm. If you modify a linked file within Helm, the external file is also changed. Files loaded as "resources" allow you to access them multiple times without having to load several copies of the same file.

The backbone of Helm involves the concept of "forms"—essentially page templates—which provide a base for building pages with similar characteristics, like a common background image. Every book will always have at least one form because it defines a page's resolution, number of colors, and default font. When a new page is created, it inherits all of the current form's attributes, including objects. However, an object's contents are only inherited if it is a shared object. To make a different form current, you simply go

2 YEAR WARRANTY

486DX-33

$ 1199

NOTEBOOKS

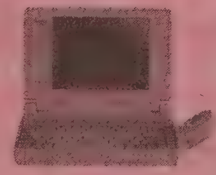
486SLC-25
2 MB RAM
120 MB Hard Drive
$1329

486DX-25
4 MB RAM
120 MB Hard Drive
$1899

All Notebooks Include: 1.44 MB Floppy, 10" LCD Display, Battery, 64 Shades, Carrying Case

TOSHIBA

1850	**$1499**
4MB RAM, 120 MB HARDDRIVE	
1850C COLOR	**$1999**
4MB RAM, 120 MB HARDDRIVE	
Includes: DOS, Win 3.1, Track Ball	
T4500C COLOR	**$3149**
Free Executive Case	



INTERMEDIATE

386SX-33		$679
386DX-40	128K	$719
486SX-25		$799
486DX-33	256K	$999

- * 85 MB Hard Drive
- * 2 MB System Memory
- * 1.44 MB Floppy Drive
- * SVGA Color Monitor
- * SVGA Graphic Card
- * Keyboard & Mouse

174 MB HD add $59

AS LOW AS **$30** PER MONTH

ADVANCED

386DX-40	128K	$939
486SX-25		$999
486DX-33	256K	$1199
486DX-50	256K	$1279
486DX2-66	256K	$1459

- * 174 MB Hard Drive
- * 4 MB System Memory
- * 1.2 MB Floppy Drive
- * 1.44 MB Floppy Drive
- * SVGA .28 Color Monitor
- * SVGA Card w/ 1 MB
- * Keyboard & Mouse

AS LOW AS **$40** PER MONTH

PROFESSIONAL

386DX-40	128K	$1239
486SX-25		$1349
486DX-33	256K	$1559
486DX-50	256K	$1729
486DX2-66	256K	$1819

- * 15" .28 Flat Screen Non-Interlaced
- * SVGA Card w/ 1 MB 32K Color
- * 212 MB Hard Drive
- * 8 MB System Memory
- * 1.2 MB Floppy Drive
- * 1.44 MB Floppy Drive
- * Keyboard & Mouse

AS LOW AS **$50** PER MONTH

UNIX

486DX2-66

- **256K Cache On Board**
- **15" SVGA Monitor .28 DP Non-Interlaced 1280x1024 Res.**
- **32 Bit Local-Bus VESA Standard SVGA Card 1280x1024 Res.**
- **32 Bit VESA Standard IDE Caching Controller Upgradable To 8 MB**
- **16 MB System Memory (Exp. To 32 MB)**
- **340 MB HD (12 MS Avg. Seek Time)**
- **Galaxy 16 Bit Sound Card w/ Speakers**
- **16 Bit Ethernet Card**

Our UNIX System Is Preconfigured For... High Resolution Graphics, Productivity Tools, CAD, Networking, Software Development Tools, GIS, Xwindows and more.

Systems come Pre Loaded, Configured, and Ready to go. All at an Unbelievably Low Price.

$ 2889

LOCAL BUS

486SX-25		$1299
486DX-33	256K	$1559
486DX2-66	256K	$1809

15" Flat Screen Non-Interlaced
32 Bit SVGA Card w/ 1 MB
245 MB Hard Drive
4 MB System Memory
1.2 MB Floppy Drive
1.44 MB Floppy Drive
Keyboard & Mouse

MULTIMEDIA

CD-ROM DRIVE
350 MS, MPC Compliance, 32 KB Buffer

SOUND BLASTER PRO DELUXE

EXTERNAL SPEAKERS
Shielded, Pre Amped, w/ Equalizer

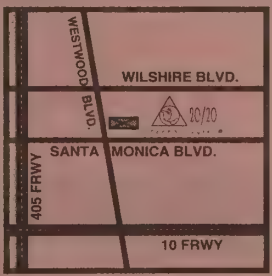
CD SOFTWARE
- Encyclopedia
- U.S. Atlas
- World Atlas
- Chess Master 2000

Sold Only With The Above Kit

ONLY $399

Prices Subject To Change

Prices Good With This Ad Only.



1786 Westwood Blvd.
W. Los Angeles, Ca
90024

20/20
Technologies®

MASTERCARD
VISA
DISCOVER
AMERICAN EXPRESS

3 1 0 ■ 4 4 1 ■ 8 8 5 5

VISA

MasterCard

DISCOVER

Financing Available

NET NET

New showroom:
7033 Orangethorpe Ave.,
Unit A, Buena Park, Ca 90621

intel inside

ISA
Systems include

- **Cirrus Logic Windows Accelerator** SVGA card with 1MB, *16 million colors*
- **CPU upgradable** up to INTEL 486DX2 66MHz
- Memory expandable up to 128MB
- AMI Bios with 2.88MB floppy drive support

INTEL 486 SYSTEMS
ALL SYSTEMS INCLUDE
INTEL 486 CPU

4MB RAM 70ns
TEAC 1.2MB
TEAC 1.44MB
130MB IDE hard drive
15ms access, 64K cache
14" SVGA monitor .28dp
2 serial/1 parallel/1 game port
minitower or minidesktop
101 enhanced keyboard

VESA Local Bus
Systems include

- **3 VESA Local Bus Slots** with *2 Bus Mastering slots*
- **32bit VLB Cirrus Logic SVGA card** with 1MB, expandable to 2MB, *16 million colors*
- **CPU upgradable** up to INTEL 486DX2 66MHz
- Memory expandable up to 128MB
- AMI Bios with 2.88MB floppy drive support

intel inside

ALL SYSTEMS INCLUDE MS DOS 6.0!

	ISA regular	ISA CASH	VLB regular	VLB CASH
486SX 25Mhz	$1125	$1049	$1225	$1149
486SX 33Mhz	$1175	$1099	$1275	$1199
486DX 33Mhz	$1275	$1199	$1375	$1299
486DX 50Mhz	$1475	$1399	$1575	$1499
486DX2 66Mhz	$1575	$1499	$1675	$1599

UPGRADE PRICES
(INSTALLED)

Add $20 to upgrade to 256K cache

Add $65 for M.S. Windows 3.1 with serial mouse

Monitors

upgrade to: 14" Shamrock SVGA, 1024x768 N.I.	Add $40
14" MGC XGA, 1280x1024 N.I., 1024x768 72Hz refresh	$60
15" MGC XGA, 1280x1024 N.I., 1024x768 72Hz refresh, flat screen	$170

Modem/fax-modem

internal 2400 baud modem	$35
internal 9600/2400 fax/modem...	$50
internal 14.4/14.4k fax/modem	$170

Sound card

Sound Blaster Pro Deluxe	$130
Sound Blaster 16 ASP	$225

Hard drive

upgrade to: 170MB Conner, 17ms, 32K cache	Add $25
212MB Conner, 12ms, 256K cache	$75
250MB Conner, 14ms, 64K cache	$95
213MB Maxtor, 15ms, 64K cache	$75
245MB Maxtor, 15ms, 64K cache	$90
340MB Maxtor, 13ms, 64K cache	$170

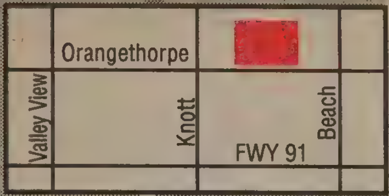
VESA local bus systems

upgrade to: Diamond Stealth 24 VESA SVGA card, 1MB, S3 chipset, 16 million colors	Add $90
32bit IDE controller with AT I/O	$30
32bit IDE caching controller with 4HD, 512K installed, supports up to 16MB	$210

Note: The above prices do not include CA sales tax and/ or shipping and handling charges if any are applicable. Regular prices reflect credit card (Visa, Mastercard) and check prices. Cash price reflects discount price for cash purchase. Above price is subject to change w/out notice.

ALL SYSTEMS CARRY FULL 1

COMPUTER



TO ORDER CALL:

(714) 523-2367
FAX: (714) 523-2625

Hours:

Mon.-Fri.	10:00am-7:00pm
Sat.	10:00am-5:00pm
Sun.	Closed

486DX CAD
System with 17" N.I. monitor

- INTEL 80486 CPU
- 8MB RAM, 70ns
- 256K cache
- TEAC 1.2MB floppy drive
- TEAC 1.44MB floppy drive
- **245MB Maxtor hard drive, *15ms access time with 64K cache***
- **17" Sceptre CL-617 SVGA flat screen monitor, *.26, dot pitch*** 1280x1024 non-interlaced, digital auto-tracking low radiation
- **32 bit Vesa local bus Diamond Stealth 24 SVGA card with 1MB** displays up to 1280x1024, *16 million color* support
- 2 serial, 1 parallel, 1 game ports
- 101 enhanced keyboard
- Minitower or minidesktop case
- Include MS DOS 6.0

Price	regular	CASH
486DX-33MHz	$2399	$2299
486DX-50MHz	$2599	$2499

Summer MADNESS Special
486 VESA Local Bus

- 4MB RAM, 70ns
- 128K cache
- 1.2MB floppy drive
- 1.44MB floppy drive
- **170MB Conner hard drive** *17ms access time with 32K cache*
- 14" SVGA color monitor, .28 dot pitch 1024x768 resolution
- **32 bit VESA local bus SVGA card with 1MB** 1024x768x256 colors
- 2 serial, 1 parallel, 1 game ports
- 101 enhanced keyboard
- Full-size tower

Price	regular	CASH
486SX-25MHz	$1075	$999
486DX-33MHz	$1275	$1199
486DX2-66MHz	$1475	$1399

Software Special

(available to systems purchased with 170MB Conner hard drive only)

Microsoft Windows 3.1
Microsoft MS-6.0
Microsoft Works for Windows 2.0
Microsoft Publisher
Microsoft Working Models
Central Point Anti-Virus for Windows
Serial Mouse

ALL FOR **$99** *MORE*

MOTHERBOARDS (OK, with CPU)

	regular/CASH
486 DX2 66Mhz ISA	$675/$655
with 128K cache VESA Local Bus, 3 V.L. slots	$700/$680
486 DX 50Mhz ISA	$575/$555
with 128K cache VESA Local Bus, 3 V.L. slots	$600/$580
486 DX 33Mhz ISA	$440/$430
with 128K cache VESA Local Bus, 3 V.L. slots	$465/$455
486 SX 33Mhz ISA	$345/$335
with 128K cache VESA Local Bus, 3 V.L. slots	$370/$360
486 SX 25Mhz ISA	$285/$275
with 128K cache VESA Local Bus, 3 V.L. slots	$310/$300
386 DX 40Mhz with 64K cache..	$185/$180
386 DX 33Mhz with 64K cache	$165/$160
386 SX 33Mhz	$125/$120
386 SX 25Mhz	$105/$100

ADD-ON CARDS

	regular/CASH
VESA local bus Cirrus Logic 1MB SVGA card (16.7 million colors)	$105/$95
VESA local bus Diamond *Stealth 24*, 1MB SVGA card (16.7 million color)	$185/$175
VESA local bus Diamond Viper VLB, 2MB VRAM SVGA card (16.7 million color)	$475/$460
VESA local bus IDE controller with AT I/O, 2 serial, 1 parallel, 1 game ports	$50/$45
VESA local bus IDE cache controller (4HD/2HD, 512K to 16MB w/OK)	$190/$180
VESA local bus NE2000 Ethernet card, 10BaseT	$199/$195
Cirrus Logic Windows Accelerator SVGA card with 1MB, 16 million color	$65/$62
16bit NE2000 Ethernet card	$99/$95
16bit NE2000 Ethernet card, 10BaseT	$109/$105
Super IDE (2HD/2FD with 2s, 1p, 1g)	$18/$17
Sound Blaster Pro Deluxe	$135/$130
Sound Blaster 16 ASP	$230/$225
2400 baud internal modem	$40/$39
9600/2400 baud internal fax/modem	$60/$59
14,400 baud internal fax/modem, v.32bis, v.42bis	$179/$169

MONITORS

	regular/CASH
14" MGC N.I. SVGA monitor, .28 dot pitch, 1280x1024 N.I., VESA stnd	$310/$300
15" MGC N.I. SVGA monitor, .28 dot pitch, 1280x1024 N.I., VESA stnd	$420/$410
14" SHAMROCK SVGA monitor, .28 dot pitch 1024x768	$250/$240
14" SHAMROCK N.I. SVGA monitor, .28 dot pitch 1024x768 N.I	$290/$280
17" Sceptre CL-617 SVGA monitor, .26 dot pitch, flat screen, 1280x1024 N.I. flicker free 72Hz refresh, with digital auto-tracking	$900/$875

FLOPPY & HARD DRIVES

	regular/CASH
TEAC 1.2MB 5 1/4" FDD	$55/$53
TEAC 1.44MB 3 1/2" FDD	$50/$48
TEAC 2.88MB 3 1/2" FDD	$110/$105
TEAC 2 in 1, 5 1/4" 1.2MB & 3 1/2" 1.44MB dual half height FDD	$150/$145
170MB, Conner CP-30174 IDE HD (17ms, 32K cache)	**$225/$220**
212MB, Conner CP-30204 IDE HD (12ms, 256K cache)	$275/$265
250MB, Conner CD-30254 IDE HD (14ms, 64K cache)	$295/$285
130MB, Maxtor MX-7131A IDE HD (15ms, 64K cache)	$200/$195
213MB, Maxtor MX-7213A IDE HD (15ms, 64K cache)	$270/$260
240MB, Maxtor MX-7245A IDE HD (15ms, 64K cache)	$285/$275
340MB, Maxtor MX-7340A IDE HD (13ms)	$360/$350
535MB, Maxtor LXT-535A IDE HD (12ms)	$870/$850
535MB, Maxtor LXT-535S SCSI HD (12ms)	$920/$900
1029MB, Maxtor PO-12S SCSI HD (13ms)	***$1100/$1075***
1470MB, Maxtor PO-17S SCSI HD (13ms)	***$1500/$1475***
120MB, Quantum LPS-120 IDE HD (14ms, 256K cache)	$250/$240
250MB, Archive California 250 Tape Backup System	$200/$195

PRINTERS

	regular/CASH
Hewlett Packard DeskJet 500 InkJet printer	$380/$370
Hewlett Packard DeskJet 550C Color InkJet printer	$700/$680
High capacity print cartridge for HP 500 family	$34/$33
Hewlett Packard LaserJet IIIP	$860/$840
Hewlett Packard LaserJet 4	$1345/$1320
Hewlett Packard LaserJet 4M	$1900/$1870
Hewlett Packard LaserJet 4L	$650/$670
Panasonic KX-P1123 Printer (24pin/240cps/80col)	$195/$190
Panasonic KX-P2123 Quiet Printer (24pin/240cps/80col/color opt)	$258/$250
Color kit for the above printer	$45/$43

KEYBOARDS

	regular/CASH
Lite-On 4100 101 enhanced keyboard (non-click)	$22/$21
Acer 6311-G 101 keyboard (click).	$37/$36
Focus 2001 101 keyboard (click, hard dustcover)	$42/$40
KME keymouse 101 keyboard (click, trackball built-in)	$62/$60

CASES

	regular/CASH
CPU cooling fan (INTEL 486)	$18/$17
Mini-tower case (200w ps)	$50/$47
Mini-desktop case (200w ps)	$70/$67
Mid-tower case (230w ps)	$80/$76
Full-tower case (250w ps)	$99/$95

Mouse/Trackball

	regular/CASH
Genius mouse (200-1000 dpi, opto-mechanical)	$20/$19
TrueDox Trackball (50-800 dpi, 3 button)	$35/$33
Microsoft serial mouse	$65/$63
Microsoft bus mouse	$75/$73
Logitech First mouse	$40/$37

YEAR PARTS & LABOR WARRANTY!

Note: The above prices do not include CA sales tax and/or shipping and handling charges if any are applicable. Regular prices reflect credit card (Visa, Mastercard) and check prices. Cash price reflects discount price for cash purchase. Above price is subject to change w/out notice.

THE ONLY REAL GRIPE I HAVE WITH SCALA IS THE DONGLE. THIS COPY-PROTECTION DEVICE FITS IN ONE OF THE MOUSE/JOYSTICK PORTS.

LOSE IT AND YOU'RE DONE FOR.

to any page that uses the form you want.

Helm features an incredibly rich programming language called Breeze, which allows you to control your application from an internal script. These scripts are generally triggered by selecting an object with the mouse. ARexx commands and files can be executed directly from the program, and Helm itself is controllable from ARexx using Breeze commands. Support for in-line ARexx commands is coming.

For audio, Helm supports IFF samples, SMUS files, MIDI, and CDTV. GVP IV24 PIP, narrator device, 2.0 genlock, telephone touch tone, printing, and serial port support is included as well. Extensive keyboard shortcuts and a freely-distributable player program are also featured.

At times the program seems a bit awkward, but this should disappear as the product matures. (I've already received several updates in the few weeks I've been reviewing Helm.) The main shortcoming I found was that the 336-page 8 1/2" x 11" manual and supplemental documentation did not clearly convey the basic concepts you need to thoroughly understand before using Helm. Without that basic understanding, Helm can be bewildering. More illustrations and step-by-step details in the tutorial would be very beneficial.

Once I figured things out, I started to really enjoy this program. One of Helm's strongest features is its ability to integrate AmigaDOS gadgets into an application. This can be a daunting chore with other authoring programs. Also, Helm's author, Jerrell Nickerson, is available for technical support—there's nothing like talking to the author when you need help—and he is very open to comments and suggestions.

Helm is an extremely powerful program and I've only touched on some of its abilities. In many respects, it is very similar to INOVAtronics' CanDo and could provide some competition. Because Helm features screen and brush wipes—something CanDo can't do—it is a fine interactive multimedia creator. Helm can also be used to make free-form databases, custom image editors, and other application programs. At a list price of $129, it's a steal!

That wraps up my Amiga multimedia review. I probably missed a few products, but I've certainly covered the main offerings. I hope I've demonstrated that the Amiga is a sound choice for multimedia application development. ■

TRANSNATIONAL ELECTRONICS, INC.
YOUR ONE STOP AMIGA STORE
15% DISCOUNT ON IBM SOFTWARE

Commodore AMIGA SOFTWARE

B-17 Flying Fortress	$52
Trolls (AGA)	$31
Wing Commander	$39
Mavis Beacon Typing	$38
Chaos Engine	$31
Nigel Mansell Racing	$38
History Line	$42
Cohort II	$38
Reach for the Skies	$38
Body Blows	$32
Mickey 123	$32
Mickey ABC	$32
Morph Plus	$159
Video Director	$149
Desert Strike	$36
Flash Back	$37
Lemming 2 *NEW*	$42
Panorama V.3.0	$69
Virtual Reality Studio	$63
Professional Page V.4.0	$159

COMMODORE 64/128
Commodore

1351 Mouse	$29
Supergraphic JR	$46
Print Shop	$32
Sesame Street Learning Library	$24
Where in the World is Carmen San Diego?	$29
Monopoly	$27
Financial Cook Book	$12
Fast Load	$25
Fortran 64	$28
Cadpak 128	$44
Icontroller	$19

We Carry Commodore Ribbons & Cables

Commodore AMIGA

A1200 CPU	$799
PLUS A1084S Monitor	
A1200 CPU	$1365
PLUS 64MB/HD A1960 Monitor	
A2000 Power Up Offers	
A4000 (68030/120)	$1599
A4000 (68040/120MB/HD)	$2349

Commodore *LIMITED OFFER!*

VIDEO TOASTER OPTIONS

TBC IV Personal	$825
Personal V Scope	$788
Ami Link/C1 System	$875
2 Machine Ami Link/C1 System	$1375
3 Machine Ami Link/C1 System	$1750
4 Machine Ami Link/C1 System	CALL
2 Machine Control (Future Video) Light Weight 3-D V. Tape	$38
Spectrum Frame Grabber	$465
Rocgen Plus	$269

Transnational does not sell any refurbished products (including video toaster boards).

VIDEO TOASTER SYSTEMS

LIMITED QUANTITY ON HAND!
A4000 (040/25/345/12MB) $5550
- A1942 (NEW!) Monitor
- Video Toaster 4000

LIMITED QUANTITY ON HAND!
A4000 (030/25/345/12MB) $4800
- A1942 (NEW!) Monitor
- Video Toaster 4000

030/25MHz/120 ...... $4295
- A2000 CPU + A1084S Monitor
- G-Force 030/25/8/120
- Video Toaster V.2.0

030/40MHz/120 ...... $4395
- A2000CPU + A1084S Monitor
- G-Force 030/40/8/120
- Video Toaster V.2.0

040/33MHz/120 ...... $4799
- A2000CPU + A1084S Monitor
- G-Force 040/33/8/120
- Video Toaster V.2.0

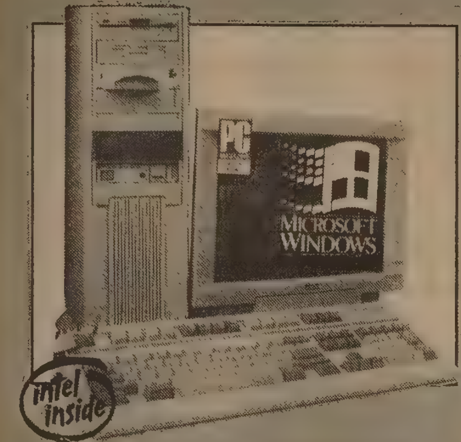
040/33MHz/213 ...... $4850
- A2000CPU + A1084S Monitor
- G-Force 040/33/8/213
- Video Toaster V.2.0

Prices subject to change w/out notice.

WE SUPPORT C-64 & C-128! LARGEST SELECTION OF HARDWARE, SOFTWARE & ACCESSORIES!
ONE YEAR WARRANTY ON PARTS & LABOR #1 SERVICE IN TOWN!

MasterCard VISA DISCOVER
57 FREEWAY KRAEMER BLVD. ORANGETHORPE LA PALMA 91 FREEWAY
MON-FRI: 9-7
SAT: 9-6
(BITS & PIECES COMPUTER PRODUCTS)
1130-A N. KRAEMER BLVD. (at La Palma and Kraemer Blvd.) ANAHEIM
(714) 630-8711 • 630-8644 • FAX 630-5619
Authorized Commodore Dealer and Repair

Performance and Price...



INTEGRATED 32 BIT IDE CONTROLLER & SVGA VIDEO

SINCE 1987, ACI has provided thousands of our customers through out the United States with superb systems built to meet their specific requirements. ACI's committment to YOU provides a full 1 YEAR WARRANTY on LABOR and PARTS, 72 HOURS BURN-IN TIME and QUICK DELIVERY with UPGRADES AVAILABLE!

486DX2-66 EISA 256K Cache w/105MB H/D	$1339
486DX2-66 ISA 256K Cache w/105MB H/D	$1139

WINDOWS LOCAL BUS SUPERSTATIONS SYSTEMS

486DX2-66MHz VESA Local Bus 256K Cache w/105MB	$1169
486DX-50 EISA 256K Cache w/105MB H/D	$1179
486DX-50 VESA Local Bus 256K Cache w/105MB H/D	$1089
486DX-50 ISA 256K Cache w/105MB H/D	$1079
486DX2-50 ISA 256K Cache w/105MB H/D	$1029
486DX-33 EISA 256K Cache w/105MB H/D	$1099
486DX-33 VESA Local Bus 64K Cache w/105MB H/D	$949
486DX-33 256K Cache w/105MB H/D	$929
486SX-25 VESA Local Bus 64K w/105MB	$809
486SX-25 ISA 64K Cache w/105MB H/D	$779
386DX-40 64K Cache w/105MB H/D	$699
386SX-33 w/105MB H/D	$649
286AT-20 w/105MB H/D	$629

SYSTEM SPECIAL!

486SLC-66MHz
64K Cache 105MB H/D ..**$949**

486SLC-50MHz
64K Cache 105MB H/D ..**$869**

486DLC-40MHz
128K Cache 105MB H/D..**$789**

486DLC-33MHz
128K Cache 105MB H/D ..**$819**

NOTEBOOKS

486SX-25MHz
5MB RAM • 80MB H/D
• Color VGA
$2049

486SX-25MHz
4MB RAM • 120MB H/D • VGA
$1519

486DX-33MHz
4MB RAM • 120MB H/D • VGA
$1789

DC-306H

- 3.5" Targets FDDx6
- High Speed or Standard
- FDD Option w/Transfer Copy Function

DC-5010H

- 5.2" Targets FDDx10
- High Speed or Standard
- FDD Option w/Transfer Copy Function

FOR MORE DETAILS FUNCTION, PLEASE CALL

• MOTHERBOARDS •

VEGA EISA 486DX2-66MHz 256K Cache	$889
OPTI EISA 486DX2-66MHz 256K Cache	$789
VEGA EISA 486DX-50MHz 256K Cache	$829
OPTI EISA 486DX-50MHz 256K Cache	$729
SIS EISA 486DX-50MHz 256K Cache	$649
VEGA EISA 486DX-33MHz 256K Cache	$689
OPTI EISA 486DX-33MHz 256K Cache	$589
OPTI ISA 486DX2-66MHz 256K Cache	$609
OPTI ISA 486DX-50MHz 256K Cache	$549
OPTI ISA 486DX2-50MHz 256K Cache	$499
OPTI ISA 486DX-33MHz 256K Cache	$409
VESA VBus 486DX2-66MHz 256K Cache w/P5 Socket	$649
VESA LBus 486DX2-66MHz 256K Cache	$629
VESA LBus 486DX-50MHz 256K Cache	$559
VESA LBus 486DX2-50MHz 256K Cache	$499
VESA LBus 486DX-33MHz 64K Cache	$419
VESA LBus 486SX-25MHz 64K Cache	$279
IBM 486SLC-66MHz VESA 64K Local Bus	$389
IBM 486SLC-50MHz VESA 64K Local Bus	$319
IBM 486SLC-50MHz ISA 64K Local Bus	$289
Cyrix 486DLC-33MHz 128K C. + Math Co	$249
Cyrix 486DLC-40MHz 128K C. + Math Co	$279
486SX-25MHz 64K Cache	$249
386DX-40MHz w/128K Cache	$159
386SX-33MHz	$105
386SX-40MHz	$119
AT 286-20MHz	$87

• MODEMS •

Internal 2400BPS w/Bitcom S/W	$32
Internal 9624 Fax/Modem w/Bitcom Fax	$59
Internal 14.4K Fax/Modem MNP5/V.17	$173
Pocket Size External 9600/2400BPS Fax/Modem	$99
External 24/96/14.4K	CALL
Internal 9600BPS Modem V.42bis/MNP5	$139

• KEYBOARDS •

BTC-5339SX 101 Keys	$29
BTC-5339R 101 Keys	$37
BTC-7039R 101 Keys	$38
BTC-5100 Mini 84 Keys	$47
BTC-5349SX 102 Keys	$37
BTC-5349R 102 Keys	$57
FOCUS 2001 101 Keys Click	$45
FOCUS 9000 129 Keys Programmable	$69
Fujitsu 4700 101 Keys	$47

• MICE •

Summagraphic 12x12, 12x18	CALL
BTC Cutie Mouse	$17
BTC Cutie Scanner w/OCR Software	$119
Microsoft Mouse Serial (OEM)	$49
Microsoft Mouse Serial & PS/2 Version	CALL
Microsoft Mouse Bus Version	$95
Logitech Mouseman Serial	$59
Logitech Trackball Serial	$89
Logitech Scanman 256G	$287
Mouse Pens (For Notebook/Laptops)	$47
Sound Blaster Card	$119
Sound Blaster Pro	$169
Z-Nix Cordless w/Windows 3.1	$59

• ARCNET/ETHERNET •

8 Bit, Arcnet	$45
8 Bit, Ethernet	CALL
16 Bit, Arcnet	$60
16 Bit, Ethernet	$69
NETWARE VER. 2.2 (5/10 USER)	CALL
NETWARE VER. 3.11 (5/10/20 USER)	CALL
SUNSOFT (ICS) UNIX	CALL
SUNSOFT (ICS) UNIX W/S PLATFORM	CALL
SUNSOFT (ICS) UNIX WINDOWING	CALL

• CD-ROM •

Mitsumi CD-ROM w/MS Bookshelf (Bundles)	$249
Panasonic CD-ROM w/MM Encyclopedia (Bundles)	$269
NEC CDR84JD 280ms, 64K Cache (HBC)	$519
Toshiba 3401B 200ms, 64K Cache	$390

• ULTRASTOR CACHING CONTROLLER •

ULTRA12F 1:1 ESDI F/HD Controller	$175
ULTRA12F-24 1:1 (24M Bits) EDSI F/HD	$185
ULTRA 12C ESDI Caching F/HD Controller w/1M	$429
ULTRA15C IDE Caching F/HD Controller w/1M	$259
ULTRA15C IDE Up To 8MB SIMM	$189
ULTRA22F ESDI 32 Bit 64K Cache	$349
ULTRA24F SCSI 32 Bit 64K Cache	$379
DC99 IDE 16 Bit Cache Controller (Up to 8MB)	$129
AHA-1542B SCSI Floppy/HDAdapter	$259
AHA 1542BK SCSI Bus Master Host Adapter	$309
AHA 1522 16 Bit DOS SCSI	$129
AHA 1522K 16 Bit w/Kit SCSI	$169

• VIDEO •

MGP	$15
VGA 256K 16 Bit	$32
ATI SVGA 512K 16 Bit Exp. 1M	$41
ATI SVGA 1MB 16 Bit	$57
Cirrus Logic VESA LB 1MB, 32 Bit Video	$97
ATI Wonder XL24 1MB	$117
ATI Ultra 1280x1024 1MB	$289
ATI Ultra Plus 2MB DRAM	$329
ATI Ultra Pro 2MB VRAM	$429
ATI Pro VESA LB 2MB VRAM	$429
Diamond Stealth 24 VESA LB, S3 Chip, 1MB	$189
Diamond Stealth Pro VESA LB 1MB VRAM up to 2MB	$259
Diamond Speedstar Pro VESA LB 1MB	$149
Orchid Pro-Designer II's EISA Sierra 1MB	$169
Orchid VESA LB S3 Chipset w/1MB DRAM	$217
AT I/O (2S, 1P, 1Game) Ports	$15
AT IDE (Dual HD/FD Controller) w/Cable	$15
AT Super IDE w/I/O (Dual HD/FD) Controllers	$19

• ISA/EISA/LOCAL BUS CONTROLLER •

EISA SCSI I &II Ultra U24F 32 Bit 64K Cache	$359
EISA SCSI DTC 3290AS 32 Bit 512K C. Exp. 4MB	$429
EISA IDE DTC 2290 32Bit, 4HD, 4FD	$139
ISA SCSI Adaptec 1522 Support up to 7 Dr	$119
ISA SCSI Adpatec 1542B 16Bit Host Adapter	$229
ISA SCSI DTC 3280 16Bit, Supports 7 SCSI, 4FD	$119
ISA IDE Ultra U15C 0MB exp. 8MB, 2HD, 3FD	$189
ISA IDE Promise DC99M 16Bit 512K C. exp. 8MB	$129
ISA IDE Promise DC2032 16Bit OK exp. 16MB	$169
VESA SCSI I/II Ultra U34F 32K C. (10MB/Sec)	$299
VESA IDE VLB Super I/O Controller	$47
VESA IDE VLB Cache exp. 16MB 4HD/2FD	$199

• HARD DISK/TAPE BACKUP •

Seagate All Models	CALL
Maxtor All Models	CALL
Conner All Models	CALL
1.2MB FDD (5.25")	$53
1.4MB FDD (3.5")w/Mounting Kit	$49
1.2/1.4MB Dual FDD	$137
2.88MB FDD (3.5")	$99
40MB IDE HDD (29ms)	$129
105MB IDE HDD (17ms)	$157
120MB IDE HDD (17ms)	$199
170MB IDE HDD (17ms)	$217
210MB IDE HDD (16ms)	$229
245MB IDE HDD (15ms)	$269
340MB IDE HDD (13ms)	$359
500MB IDE HDD (12ms)	CALL
676MB ESDI/SCSI	CALL
1.2GB/2.0GB SCSI HDD	CALL
120MB Tape Backup Internal	$189
250MB Tape Backup Internal	$199
500MB SCSI Tape Backup Internal	$599
2.0GB/4.0GB Tape Backup Internal	CALL

• MONITORS •

Edition 14" Amber	$89
Edition 14" White	$89
IBM VGA, .26dpi 640x480	$169
Edition 14" SVGA .39DP	$229
Shamrock 14" (1024x768).28DPI Internal	$249
Shamrock 14" (1024x768).28DPI N-I	$269
Shamrock 15" (1280x1024).28DPI N-I	$389
Shamrock 20" (1280x1024).28DPI N-I	$1199
CTX 5468 14" 1024x768 .28DPI N-I	$279
NEC Multisync 4FG 15" (1024x768, 28DP)	$779
NEC Multisync 5FG 17" (1280x1024, 28DP)	$1425
NEC Multisync 6FG 21" (1280x1024, 28DP)	$2460
Mitsubishi Diamond Pro 17" (1280x1024, .26DPI)	CALL
Sony CPD-1604S 17" (Non-Interlaced, .25DP) Color	CALL
Viewsonic 7 17" Multi-Frequency(1280x1024).28DPI	CALL
MAG 17" Mx17H (1024x768, .26 DPI)	CALL

COMPLETE SYSTEMS ABOVE INCLUDE:

1MB RAM of High Speed 70ns
1024 x 768 SVGA card
105MB IDE Hard Drive
1.2MB & 1.4MB Floppy Drive
1 Parallel, 2 Seriel, 1 Game Port(s)
VGA Color Monitor, .28dpi
BTC 101 Key Enhanced Keyboard
Desktop or Mini Tower Case w/Digital Display
Serial Mouse

UPGRADES

VIDEO UPGRADE

- Diamond Speedstar Pro Vesa Local Bus 1MB, 16.7 million colors $117
- Diamond Stealth 24 Vesa Local Bus 1MB Exp. 2MB, S3 Chip, 16 million Colors $139
- Vesa Local Bus 32 Bit 1MB ... $69
- Orchid Pro Design II's 1MB . $167

HARD DISK

- 170MB IDE 17ms $89
- 245MB IDE 15ms $137
- IDE VESA 32 Bit LB Controller $35
- IDE 16 Bit Cache Controller $119
- IDE 32 Bit Cache Controller $299

MONITOR UPGRADE

- Shamrock 14" Non-Interlaced 1024 x 768, .28DP $139
- Shamrock 15" Non-Interlaced 1280 x 768, .28DP $159
- Shamrock 20" Non-Interlaced 1280 x 768, .28DP .... CALL
- MAG 17" Non-Interlaced 1280x1024, .26DP $869
- ViewSonic 7 17" N-I 1280x1024, .28DP $869
- MICRO Q 17" SVGA, .31 Color $559

ACI COMPUTERS (714) 838-4443

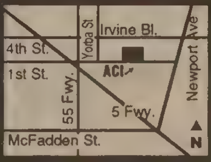
205 W. FIRST STREET • SUITE #106 • TUSTIN, CA 92680
HOURS: Mon.-Fri. 10-6, Sat. 10-5
Prices subject to change.

FINANCING AVAILABLE
SALES & SERVICE & NETWORKING

Do not use 1st St. off 55 Fwy. as it is closed due to construction.

FAX: (714) 838-5055

VISA MasterCard



Preview: SIGGR

ANAHEIM CONVENTION CENTER
AUGUST 1–6, 1993

Widely acclaimed as *the* international conference on computer graphics, ACM SIGGRAPH celebrates its twentieth anniversary this year in Anaheim. Offering high-quality seminars and state-of-the-art technology exhibits, SIGGRAPH is an invaluable asset to professionals and beginners alike.

This year the traditional program is augmented by the debut of Multimedia 93, the Association for Computing Machinery's first international show on multimedia.

For more information on the conference, contact SIGGRAPH at (312)321-6830. The entire advance program information can be accessed via the Internet by anonymous ftp to *siggraph.org* (128.248.245.250).

CONFERENCE AT A GLANCE

	SAT July 31	SUN August 1	MON August 2	TUE August 3	WED August 4	THU August 5	FRI August 6
REGISTRATION/ MERCHANDISE	6 pm to 10 pm	7:30 am to 8 pm	7:30 am to 7 pm	7:30 am to 7 pm	8 am to 6 pm	8 am to 6 pm	9 am to 1 pm
EXHIBITION				10 am to 6 pm	10 am to 6 pm	10 am to 3:30 pm	
COURSES (full- and half-day)		8:30 am to 12 noon & 1:30 pm to 5 pm	8:30 am to 12 noon & 1:30 pm to 5 pm	8:30 am to 12 noon & 1:30 pm to 5 pm	8:30 am to 12 noon & 1:30 pm to 5 pm	8:30 am to 12 noon & 1:30 pm to 5 pm	
SIGGRAPH PAPERS/PANELS				1:30 pm to 5 pm	8:30 am to 5 pm	8:30 am to 5 pm	8:30 am to 5 pm
MULTIMEDIA PAPERS/PANELS					1:30 pm to 5 pm	8:30 am to 5 pm	8:30 am to 5 pm
DESIGNING TECHNOLOGY		5 pm to 7 pm	9 am to 7 pm	9 am to 7 pm	9 am to 7 pm	9 am to 7 pm	9 am to 1 pm
MACHINE CULTURE		5 pm to 7 pm	9 am to 7 pm	9 am to 7 pm	9 am to 7 pm	9 am to 7 pm	9 am to 1 pm
TOMORROW'S REALITIES		5 pm to 7 pm	9 am to 7 pm	9 am to 7 pm	9 am to 7 pm	9 am to 7 pm	9 am to 1 pm
ELECTRONIC THEATER				7:30 pm to 9:30 pm	7:30 pm to 9:30 pm	7:30 pm to 9:30 pm	
SMALL ANIMATION THEATERS		10 am to 7 pm	9 am to 7 pm	9 am to 7 pm	9 am to 7 pm	9 am to 7 pm	9 am to 1 pm
SIGKIDS			9 am to 7 pm	9 am to 7 pm	9 am to 7 pm	9 am to 7 pm	9 am to 1 pm
FUNDAMENTALS SEMINAR		2 pm to 5 pm					
KEYNOTE ADDRESSES				2 pm to 5 pm			
GENERAL SESSION				8:30 am to 10 am SIGGRAPH	10:15 am to 12 noon Multimedia		
RECEPTIONS		5 to 7 pm Welcome	7 to 10 pm Courses	12 noon to 1:30 pm	12 noon to 1:30 pm	7 to 10 pm Papers/panels	

FULL-DAY COURSES

SUNDAY, 1 AUGUST
01 Character Motion Systems
02 Introduction to Scientific Visualization Tools and Techniques
03 Developing Large-scale Graphics Software Toolkits

MONDAY, 2 AUGUST
20 Computer Graphics in Visual Effects
21 Three-dimensional Visualization Using Medical Data
22 Making Radiosity Practical
23 Applied Virtual Reality
24 Graphic Design for User Interfaces
25 Modeling, Visualizing, and Animating Implicit Surfaces
26 The OpenGL Graphics Interface
27 MM: Designing Multimedia Environments for Children
28 MM: Multimedia Systems: A Guided Tour
29 MM: Concept of Color, Video, and Compression

TUESDAY, 3 AUGUST
40 Modeling in Computer Graphics
41 Volume Visualization
42 Global Illumination
43 Implementing Virtual Reality
44 Procedural Modeling and Rendering Techniques
45 MM: Survey of Formal Standards for Multimedia Systems

WEDNESDAY, 4 AUGUST
60 An Introduction to Physically Based Modeling
61 Film Craft in User Interface Design
62 Fundamentals and Overview of Computer Graphics

THURSDAY, 5 AUGUST
80 Recent Techniques in Human Modeling, Animation, and Rendering
81 An Introduction to Data Sonification
82 Curve and Surface Design: From Geometry to Applications

FRIDAY, 6 AUGUST

APH 93

Multi & Media beyond

TECHNICAL PROGRAM AT A GLANCE

HALF-DAY COURSES	TIME	SIGGRAPH PAPERS	MULTIMEDIA PAPERS	SIGGRAPH PANELS	MULTIMEDIA PANELS
10 LAB: Programming PEX with PEXlib (beginning) (also #50) 11 Introduction to Volume Visualization: Imaging Multidimensional Scientific Data	8:30 am–12 noon				
15 LAB: Programming PEX with PEXlib (intermediate) (also #70) 16 Stereo Computer Graphics with Application to Virtual Reality	1:30 pm–5:00 pm				
30 LAB: Programming PEX with HOOPS	8:30 am–12 noon				
35 LAB: Programming PEX with PHIGS (also #75)	1:30 pm–5:00 pm				
50 LAB: Programming PEX with PEXlib (beginning) (also #10)	8:30 am–10:00 am	SIGGRAPH 93 Keynote Address			
51 MM: Copyright Protection for Software, Graphics, and Multimedia 52 MM: Multimedia and Multimodal Parsing	10:15 am–12 noon				
55 LAB: Programming PEX with PEXtk, a GL-like API 56 MM: Structured Design of Hypermedia Applications	1:30 pm–3:15 pm	Surfaces		Stereo Lithography: Rapid Prototyping in 3D	
57 MM: Large Multimedia Databases	3:30 pm–5:00 pm	Hardware		Visual Thinkers in an Age of Computer Visualization: Problems and Possibilities	
70 LAB: Programming PEX with PEXlib (intermediate) (also #15) 71 Visualizing Planet Earth	8:30 am–10:00 am	Interaction		Updating Computer Animation: An Interdisciplinary Approach Facilitating Learning with Computer Graphics and Multimedia	
	10:15 am–12 noon	Multimedia 93 Keynote Address			
75 LAB: Programming PEX with PHIGS (also #35) 76 The Fundamentals of Color Desktop Publishing in Print Production	1:30 pm–3:15 pm	Rendering Architectures	Communication Protocols	Visualizing Environmental Data Sets	Digital Libraries of the Future
	3:30 pm–5:00 pm	Virtual Reality	Compression and Coding Content-based Retrieval	How to Lie and Confuse with Visualization The Application of Evolutionary and Biological Processes to Computer Art and Animation	
	8:30 am–10:00 am	Global Illumination	Communication Systems Hypermedia	Urban Tech-gap: Museum and University Liaisons—A New Electronic Bridge Virtual Reality and Computer Graphics Programming	
	10:15 am–12 noon	Light and Color	Media Synchronization Multimedia Toolkits	Ubiquitous Computing and Augmented Reality	Networked Multimedia Emerging Software Architectures
	1:30 pm–3:15 pm	Numerical Methods for Radiosity	Delay Sensitive Retrieval Using Video in Group Collaboration	Merging 3D Graphics and Imaging—Applications and Issues Nan-o-sex and Virtual Seduction	
	3:30 pm–5:00 pm	Visibility	Video Processing	Critical Art/Interactive Art/Virtual Art: Rethinking "Computer Art"	Multimedia Publishing: Your Conference CD-ROM
	5:00 pm–7:00 pm	SIGGRAPH Town Hall Meeting			
	8:30 am–10:00 am	Visualization	Network Performance Authoring	Digital Illusion: Theme Park Visualization—Part One	
	10:15 am–12 noon	Processing Synthetic Images	Documents	Digital Illusion: Theme Park Visualization—Part Two	The Future of Video Dial Tone
	1:30 pm–3:15 pm	Techniques for Animation	Video Servers Information Access	Man vs. Mouse Multimedia and Interactivity in the Antipodes	
	3:30 pm–5:00 pm	Natural Phenomena	Collaboration Systems Support for Video Applications	The Integrative Use of Computer Graphics in a Medical University	

COMPUEXPO '93

Reseller Passport to The Future

"I need a place to shop for things I haven't seen before"

"If selling on price isn't working, how do we sell?"

"It's vital to know what markets are becoming a commodity and which ones to get out of"

"In today's market it's crucial to sell on value"

Visas
Visas
COMPUEXPO
PASSPORT
TAIWAN PAVILION

"We're always looking for more places to buy products and service"

"It's crucial to find technology that allows me to compete against the major brands"

"To be competitive our company actively seeks out new vendors and new ways to add value"

"Where can I meet Asian manufacturers without going to Asia"

Be There!

COMPUEXPO '93 • GLOBAL PC TRADE SHOW

Sept. 9-11, 1993 • Las Vegas Convention Center • Nevada, USA

Co-Sponsored By INFO WORLD · COMPUTER TECHNOLOGY REVIEW® · ASCII THE ASCII GROUP, INC. · MICROTIMES · INFO WORLD Direct · THE ASM GROUP The Asian Sources Media Group

FAX BACK RESPONSE

☐ I am interested in exhibiting at COMPUEXPO; please send me exhibitor information.
☐ I am interested in attending COMPUEXPO; please send me attendee information.
☐ Have a representative call me.

Name ______________________ Mr. ☐ Mrs. ☐ Ms. ☐

Company ______________________ Title ______________________

Address ______________________

City ______________________ State __________ Zip __________

Phone ______________________ Fax ______________________

My company's primary business activity:

☐ Manufacturing ☐ VAR ☐ Reseller ☐ Distributor ☐ System Integrator ☐ Other: __________

Fax back today to receive more information on COMPUEXPO '93!

Fax: (510) 657-3499

COMPUEXPO
Edge & Technology Source

September 9-11, 1993
Las Vegas Convention Center
Las Vegas, Nevada, USA
Hosted by
UNSC Investment Group
39899 Balentine Dr., #175, Newark, CA 94560-9902
Tel: (510) 657-3418 • Fax: (510) 657-3499

MT

So You Want To Be A ROCK AND ROLL STAR

Interactive CD-ROM Illustrates Medium's Strengths, Weaknesses

Crazy
Runaway
Dock of the Bay
Stand By Me
Midnight Hour
Twist and Shout
Continuous Play
Quit
WURLITZER

BY JONATHAN E.

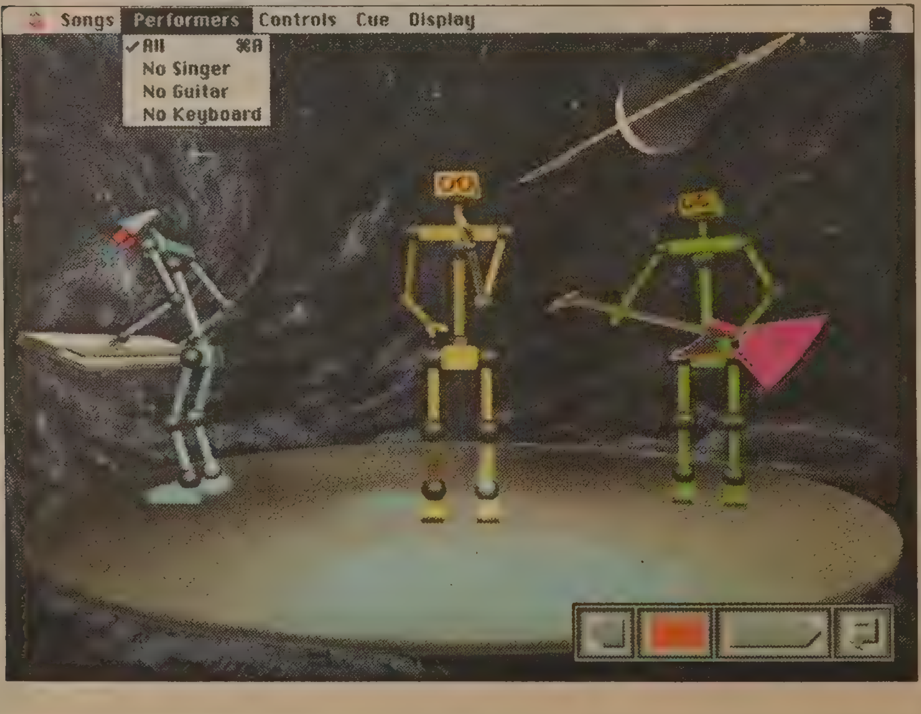
Copyright © 1993 by Jonathan E. All rights reserved. Jonathan E. has worked with desktop multimedia since 1988. He also writes about world music and the Archaic Revival for BAM. *His USPS mailing address is c/o SoundSwell, 54 29th St., Richmond, CA 94804. His email address is jeve@well.sf.ca.us*

So You Want To Be A Rock And Roll Star is a CD-ROM from Interactive Records, self-described as "the first software record company." It's designed to teach the user how to play the guitar or keyboard parts to six classic songs, and can also be used as a karaoke machine if you wish to sing along to the instrumental backing. The CD-ROM's strengths provide insight into the advantages interactive multimedia offers for learning and entertainment in the future, while the weaknesses of v1.1, which are mostly due to the evolving technology rather than content, illustrate many of the tricky issues multimedia developers have faced in the recent past—and may continue to face.

So You Want To Be A Rock And Roll Star has a MacroMind Director front end, controlling CD Red Book audio, QuickTime movies, and AIFF audio files. The use of Red Book audio means that you must load the data files onto your hard disk, since the CD-ROM drive cannot access both data and Red Book audio simultaneously. This also overcomes the usual problem of CD-ROM not being speedy-ROM (however, see Tony Reveaux's "Graphic Adventure Developers On The Edge" in our last issue for insight into how game developers are dealing with improving the access speeds of CD-ROMs), but the drawback is that you must have 4MB of free space on your hard disk. The big advantage is that you get full CD-quality audio for the songs.

Once you've loaded the CD-ROM into your drive, you drag the *Rock And Roll* jukebox icon onto your desktop and double click on it to open it. Then you wait—and wait some more, about a minute and a half, while the main jukebox loads. Once it's loaded, you're rewarded with a magnificent animated jukebox, complete with little bubbles in its colorful tubes. A cover version of Chuck Berry's "Rock And Roll Music" anthem loops continuously until you select one of the six songs. The choices are "In The Midnight Hour," "Twist And Shout," "Runaway," "Dock of the Bay," "Stand By Me," or "Crazy." These songs were used because, with the exception of "Crazy," they are somewhat transgenerational, charting in the 60s and also in the 80s.

You can isolate individual players and instrument parts for closer study.



When you make your selection, you wait again while your selection is loaded. This time, however, the wait time is camouflaged by a trivia question about the history of rock and roll, one of one thousand that are programmed in sequence so that you don't get the same one twice until you've been through the whole loop. As the load finishes, the answer appears on screen. This neat little trick goes some way towards reducing the irritation factor of the long loads and is used every time a different song is loaded. These long loads will be reduced to about thirty seconds through better algorithms in the new v1.2 of the CD-ROM. They are also shorter with a more powerful CPU (this was running on a Mac cx). Future improvements in both CD-ROM drive and CPU hardware will also lessen these load times.

> Improvements in technology mean that your title is never really finished. Every time something new and better comes along, the title must be reprogrammed to take advantage of the improvements.

However, this opportunity is also a difficulty that title developers have to deal with. These improvements in technology mean that your title is never really finished. Every time something new and better comes along, the title must be reprogrammed to take advantage of the improvements. Old inventory may become either unusable on a new drive, or so embarrassingly slow as to be unsaleable.

This happened to Interactive Records with the introduction of Apple's new dual-speed drives. A code conflict between the software driver for the new drive and Director made it necessary for Macromedia to rewrite some of Director's code. In the lag time between the new drives, the new code, and reprogramming and remastering the CD-ROM, Interactive felt that it could not ship v1.1 of the product.

The lesson for developers is to keep inventory low and to pay very close attention to what's going on in other parts of the industry, while praying that everybody's schedules are well synchronized.

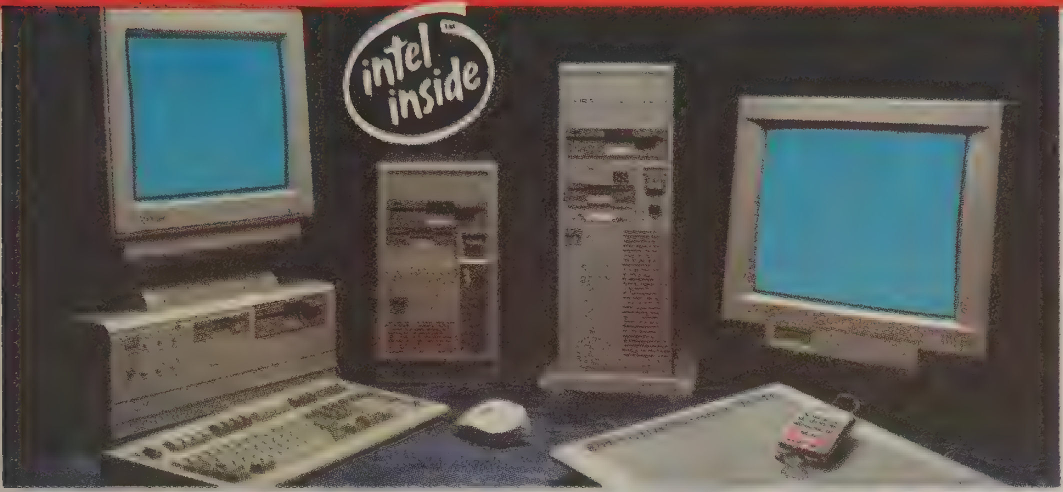
When the new song is loaded, a graphic and a simple control panel appear on the screen. Clicking the Play button on the panel causes the song to start playing. The songs are cover versions, specially recorded for *So You Want To Be A Rock And Roll Star*. The sound is very good over decent outboard speakers, and the vocalists are not far off from the original hit versions—they were hired with a classified ad in the back of *BAM* asking for applicants who could sing like Otis Redding or Wilson Pickett, although as Steven Rappaport, President of Interactive Records, freely admits "who could sound like those guys?"

THE LEARNING JUKEBOX

However, the point of this CD-ROM is not to be simply a collection of cover versions. The point is to be able to interact with these songs and learn more about them than you ever could with a straight cover recorded and distributed with conventional techniques.

As the song plays, the graphic goes through a simple animation. The style is quite different for each song, and each is a long way from what you're used to seeing as music videos on MTV. "Runaway" has a particular charm. It uses Steven Rappaport's high-school yearbook as its basis, with additional contemporary pictures serving to link the decades. "Twist And Shout" has an amusing performance by robot musicians. "Crazy" uses a wistfully drawn bar-room drinking scene and "Dock Of The Bay" has a delicate poignancy. "In The Midnight Hour," on the other

Zenon's new "total 32bit solutions" prove that high-tech performance doesn't cost—it pays!



Z-Win EISA/VLB

- Two 32bit VL-Bus Slots
- 256K Fast Write-Back Cache
- 4 MB High Speed 32bit RAM
- 250MB IDE 12ms HD with Cache
- 32bit VLB Fast IDE HD Controller
- 32bit **Titan** VLB Video Accelerator, 1MB, 16 Million Colors, 1280x1024
- 14" Flatscreen SVGA-NI, 1280x1024—*30% larger edge-to-edge viewing!*
- 101 Keyboard
- 2S, 1P, 1G Ports
- Both 1.2 and 1.44 MB Floppy Drives
- High Resolution Serial Mouse

486DX/33	**$1545**
486DX2/50	**$1645**
486DX2/66	**$1795**

Diamond Viper Accelerator (2MB)—add $250
250MB SCSI-2 HD, 12ms—add $75
32bit VL-Bus SCSI-2 Controller—add $100

Z-Turbo VLB

- Two 32bit VL-Bus Slots
- 128K Fast Write-Back Cache
- 4 MB High Speed 32bit RAM
- 170MB IDE 12ms HD with Cache
- 32bit VLB Fast IDE HD Controller
- 32bit **Titan** VLB Video Accelerator, 1MB, 16 Million Colors, 1280x1024
- 14" SVGA-NI color monitor, 1024x768, *.28dp*
- Enhanced Soft-Click 101 Keyboard
- 2 Serial, 1 Parallel, 1 Game Ports
- Both 1.2 and 1.44 MB Floppy Drives
- High Resolution Serial Mouse

486DX/33	**$1295**
486DX2/50	**$1395**
486DX2/66	**$1545**

15" Flat Screen 1280x1024 Monitor—add $95
MS-DOS 6.0 & MS Windows 3.1—add $75
Upgr. to 8MB RAM & 250MB HD—add $235

Z-Multimedia EISA SCSI / IDE

- Eight 32bit EISA Bus Mastering Slots
- 256K Fast Write-Back Cache
- 8 MB High Speed 32bit RAM
- 250MB IDE 12ms HD with Cache
- 32bit **EISA** Turbo Accelerator, 1280x1024, 1MB VRAM, 16 Million Colors
- 15" Flatscreen SVGA-NI, 1280x1024—*30% larger edge-to-edge viewing!*
- 101 Keyboard
- 2S, 1P, 1G Ports
- Both 1.2 and 1.44 MB Floppy Drives
- High Resolution Serial Mouse
- Includes Media Pak #1 *(Pak #2 optional)*

486DX/33	**$1925**
486DX2/50	**$2025**
486DX2/66	**$2125**

17" Flat Screen 1280x1024 Monitor—add $450
Upgrade to 340MB 12ms HD—add $85

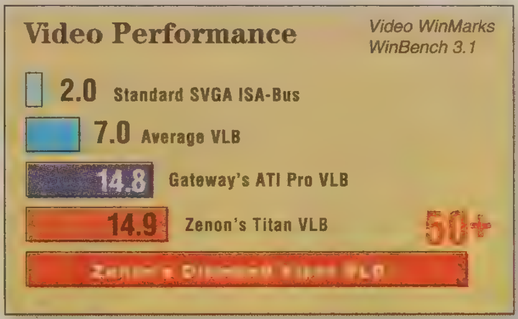
Caching Software!
200%
or more
Norton Speedcache

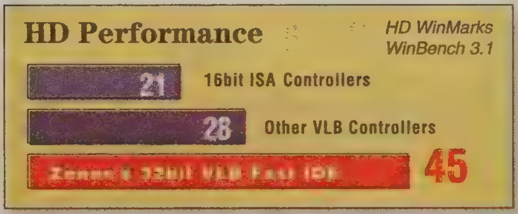
Media Pak #1 *(included left)*................ **$ 375**
- High Fidelity Sound Card
- Mitsumi CD-ROM—plays Kodak Photo CDs!
- Mini-Speakers with 4 CD titles

Media Pak #2 .... **$ 695**
- Pro Audio Spectrum 16 Sound Card
- Toshiba 3401 200ms SCSI CD-ROM, plays Kodak Photo CDs, with Norton Speedcache+!!!
- Mini-Speakers with 4 CD titles

Investing a few dollars now in Zenon's new 32bit powerhouses will bring big dividends in productivity later!

Glance at how your new system will perform in Windows™ demanding work environment…





You'll get faster VIDEO and HARD DISK performance, *bigger* HD's and monitors, *and* more RAM and cache for today's tougher PC-workloads. Compare—point-for-point—we think you'll agree. Zenon has *cost-effective* answers to your high-tech problems!

Zenon Buyer Protection

- 1 Year Parts Warranty
- Lifetime Labor Warranty
- Lifetime Free Technical Support
- 24-Hour BBS Software Support

ZENON

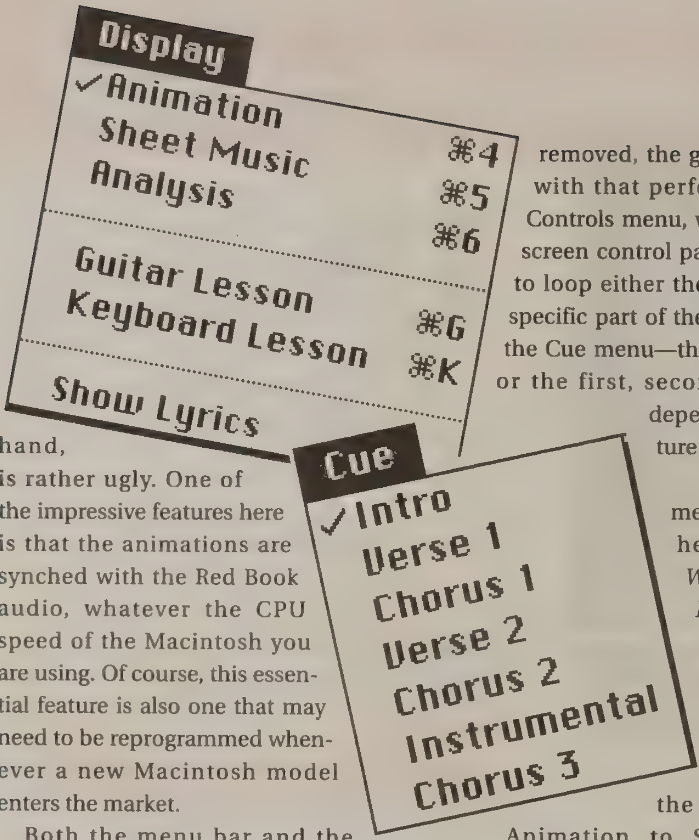
310/926-7898

FAX 310/926-6718

13360 EAST FIRESTONE SUITE B
SANTA FE SPRINGS CA 90670

VISA MasterCard DISCOVER

SCHOOLS, FORTUNE 500 PO'S ACCEPTED—oac.

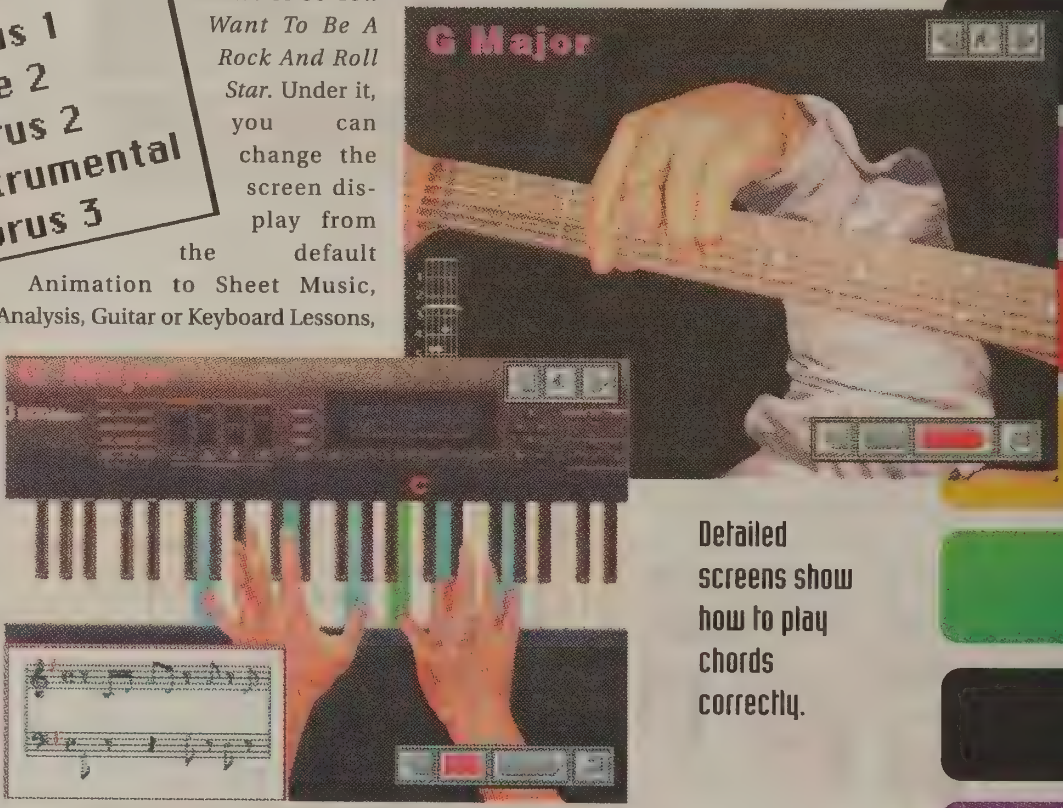


hand, is rather ugly. One of the impressive features here is that the animations are synched with the Red Book audio, whatever the CPU speed of the Macintosh you are using. Of course, this essential feature is also one that may need to be reprogrammed whenever a new Macintosh model enters the market.

Both the menu bar and the control panel disappear while the song is playing, which lessens their distraction from the graphics, but also leaves the first-time user wondering how, if at all, to control the action. In fact, a mouse-click will stop the song, although it must be a rather slow and deliberate click. The rapid click that most experienced users are used to is not registered, which again leads to wondering what control you have. Once the song is stopped, the menu bar and control panel reappear.

Besides being able to play the song straight through, load another song, or return to the jukebox, the menu bar allows you several options. Under the Performers menu, you can choose to hear the song without the guitar, the keyboards, or the vocals. When one of these performers (and you can only remove one at a time) is removed, the graphic is animated, with that performer absent. The Controls menu, which duplicates the screen control panel, also allows you to loop either the entire song or the specific part of the song selected from the Cue menu—the chorus, the bridge or the first, second or third verses depending on the structure of the song.

The Display menu leads to the real heart of *So You Want To Be A Rock And Roll Star.* Under it, you can change the screen display from the default Animation to Sheet Music, Analysis, Guitar or Keyboard Lessons, or Show Lyrics. These display options are interlinked with the Performers and Cue menus, while the Show Lyrics option toggles on and off in the Animation display; thus, if the cue is set to the second verse of the Animation with No Guitar selected and Show Lyrics on, the song will start at that point, displaying the correct lyrics, a phrase at a time and without the guitar. The Sheet Music display is exactly as you would expect, offering an advantage over standard printed sheet music in that it highlights the measure of the song that is currently playing—once again the graphics are synched with the sound whatever model Macintosh you are using. The Analysis display shows all the measures in a row with each chord color-coded, and again the measure playing is highlighted in sync. A picture of any chord can be shown to help the user learn music theory about the interval comprising the chord.



Detailed screens show how to play chords correctly.

Selecting the Guitar Lesson or Keyboard Lesson causes the screen to display still photos of the player's finger positions from the point of view of the player. These photos change along with the chords, or can be controlled one frame at a time at the user's pace. In addition, there is a QuickTime movie with each photo, explaining

Whether your office has one computer or one hundred....

We keep you working

AUTHORIZED TECHNICAL SERVICES has the experience *and* the expertise to handle your equipment service needs. Whether you're running one small office with one micro computer, or a statewide network of offices with a complex inventory of computers, video display terminals, printers and data communications devices—you simply cannot afford "down time". Call **ATS** today to find out just how easy it is to stay productive

ATS
AUTHORIZED TECHNICAL SERVICES
1-800-451-4057

HERE'S A PARTIAL LIST OF EQUIPMENT WE SERVICE:
MICROCOMPUTERS: Dell, Epson, Advance Logic (ALR), AT&T, Everex, Leading Edge, AST Research, Compaq, IBM. **LOCAL AREA NETWORKS:** 3Com, Novell. **STORAGE DEVICES:** IOmega (Bernoulli). **DOT MATRIX PRINTERS:** Alps, Datasouth Epson, NEC, Panasonic, Citizen, Texas Instruments, C. Itoh, Digital Equipment (DEC), IBM, Okidata, Printek, Toshiba. **PLOTTERS:** Hewlett-Packard, IBM. **THERMAL PRINTERS:** IBM, Texas Instruments, Panasonic. **LINE PRINTERS:** Data Products, Printronix. **LETTER QUALITY PRINTERS:** C. Itoh, Diablo, NEC Spinwriters. **LASER PRINTERS:** Canon, Epson, IBM, AST, TI, Hewlett-Packard. **VIDEO DISPLAY TERMINALS:** Digital Equipment (DEC), Link, Qume, Tab, Televideo, Wyse. **DATA COMMUNICATIONS:** Hayes.

ATS SERVICE CENTERS:
Los Angeles (310) 839-0020
Orange County (714) 937-0332
Oakland (510) 638-4449
Sacramento (916) 923-2944
San Jose (408) 970-9860

AMIGA
Multimedia Super Computer
SPECIAL PURCHASE

Amiga 3000
(25 MHz)
WITH 15 MEG RAM!
AND 105 MEG HARD DRIVE!
•68030 processor 25 MHz
•68882 math co-processor
•Custom co-processor for graphics/animation, audio and other processing
•5 MEG RAM
•105 MEG SCSI hard drive
•3.5" floppy drive
•Mac and IBM compatable
•Keyboard and mouse included
•True 32-bit architecture
•Stereo digital sound
•Enhanced chips set
•Video Toaster & Opalvision compatible
•Color monitors available
•On-board display enhancer

$999*

AMIGA-BASED
8-TRACK
DIRECT-TO-DISK
DIGITAL RECORDING
SYSTEM
with on-board signal processor
INCLUDES COMPUTER
$2999!

NOW MAKE YOUR AMIGA
100% MACINTOSH COMPATIBLE!
100% IBM COMPATIBLE!
FOR UNDER $500!
CALL NOW FOR DETAILS!

SEE THE REVOLUTIONARY
VIDEO TOASTER 4000
IN STOCK!
Authorized Dealer

*with purchase of selected monitors at special prices!

GOODMAN MUSIC

UNIVERSAL CITY (213) 845-1145 or (818) 760-4430
3501 Cahuenga Bl. West
(Lankershim Exit off Hollywood. Fwy.-Turn Left)

WEST COVINA (818) 967-5767
544 Azusa Ave.
(1 Block North of 10 Fwy.)

WEST SIDE (310) 558-5500
4204 S. Sepulveda Blvd.
(Culver Exit off the 405 Fwy.)

ANAHEIM (714) 520-4500
1676 W. Lincoln
(Corner of Lincoln & Euclid)

how the chord is fingered, possible alternatives, and other helpful hints. With these features *So You Want To Be A Rock And Roll Star* leaps to a level of interactivity and user-determined pacing that leaves instructional books or videos far behind.

In the Analysis section, there are two other QuickTime movie windows available, Theory and History. In Theory, Dennis Critieser of the Blue Bear School of Music explains the musical theory behind the chord progressions of the song. Taken together, the six songs form an introductory course in theory, and the user is advised to study them in progression from the easiest to the most difficult. The Theory lessons can also be printed out, as can the Help section for the whole CD-ROM, the Help for a particular section, or the History or Jargon for each song.

History features Steven Rappaport talking about the different versions of the song, its writer, and other historical tidbits with shots of old record labels, charts, publicity photos, and so on. Personally, this is the part of the CD-ROM that I like the best—not only because its content is the most interesting to me as a record collector rather than an aspiring musician—but also because it is where Rappaport's passion for "old rock'n'roll" as a fan takes over from the need to teach playing technique in a relatively straightforward fashion.

There is only one major drawback—the lack of excerpts from those old records to give a taste of their flavor. Rappaport had originally planned to use such excerpts but, as the music industry slowly became aware of multimedia and the goldmine it might become, licensing fees skyrocketed and the threat of legal action loomed. It would seem as though short excerpts should be able to be used under the "fair use" provisions of the copyright law; however, that's a gray area of the law and a small company like Interactive Records simply cannot afford to test it.

> The point of this CD-ROM is not to be simply a collection of cover versions. The point is to be able to interact with these songs and learn more about them than you ever could with a straight cover recorded and distributed with conventional techniques.

Selecting any display option other than Animation also brings up two more menu choices: Jargon and Phrases. Under Jargon, there is a context-sensitive list of musical terms, i.e. only those that you'll need in the current lesson are displayed. Selecting a term causes a box with an explanation to pop-up. Clicking on any word in bold-face causes an AIFF sound file to play back a musical example of the word or concept being defined. There's a slightly annoying problem here as there's a scratchy popping noise at the beginning of each file. Under the Phrases menu, the phrases of the song are displayed and can be individually selected for an audio explanation while the selected phrase is highlighted on the screen so that it is easy to see where it occurs.

So You Want To Be A Rock And Roll Star is designed for people who've had three to six months piano lessons, or who may have played a little guitar when younger. However, its approach is so clear and the tone so helpful and encouraging that an absolute beginner should be able to use it to learn these particular songs and a fair amount of musical theory. Its home-brew quality, combined with its content expertise and interactive multimedia techniques, allow Steven Rappaport's enthusiasm for rock 'n' roll and teaching music to shine through. So You Want To Be A Rock And Roll Star is an excellent example of what a CD-ROM can be.

So You Want To Be A Rock And Roll Star will run on any color Mac with a CD-ROM drive using System 6.0.7 or later. External speakers or headphones are needed for the CD audio. The recommended retail price for v1.2 is $79.95. You may order it through your local computer store or Educorp or direct from Interactive Records, 921 Church St., San Francisco, CA 94114. A Windows version will be available this month. ■

DTK

386DX40 4RAM 120HD **$1095**	**486SX25** 4RAM 120HD **$1195**
486DX50 4RAM 345HD **$1699**	**486DX66** 4RAM 345HD **$1799**
486DX33 **VESA Local Bus!** 4RAM 200HD **$1595**	**486DX33** 4RAM 200HD **$1475**

All systems include 1 Year Parts and Labor.
1MB VGA card, 14" SVGA Monitor, 1.2, 1.44, 101 Keyboard.
Add $129 for Win 3.1, Mouse, PFS WinWorks, Quicken, & SitBack!

LA
COMPUTER CENTER

WEST LA
12002 PICO BLVD.
(E. OF Bundy. Off 405 & 10fwy)
(310) 479-0999

VALLEY
19317 VENTURA BLVD. (IN TARZANA)
(818) 996-0777

MAC

QUADRA 800 8MB RAM & 230 HD **$3699**	**LC III** **4/80 $1259** **4/160 $1379**
CLASSIC II Color 4RAM AND 80HD **$1179**	**CENTRIS 650** 8RAM AND 230HD **$2995**
Powerbook 145B **4/40 $1599** **4/80 $1799**	**Powerbook 180C** 4RAM, 160HD, Color **$4199**
Powerbook 160 4RAM AND 120HD **$2299**	**Powerbook 165C** 4RAM AND 120HD **$2649**

TOSHIBA

T1900 *200MB HD, 9.5" VGA* 120MB $1799 200MB $2049	**T1900C** *9.5" ACT VGA, 4RAM* 120MB $2399 200MB $2649	**T4600** *486SL/33, 9.5" VGA* 200MB HD $3099 340MB HD $3499	**T4600C** *486SL/33, 9.5" ACT VGA* 200MB HD $4299 340MB HD $4649
T1850 *386SX/25, 4RAM, VGA* 80MB HD $1299 120MB HD $1399	**T1850C** *VGA COLOR SCREEN* 80MB $1799 120MB $1999	**T4500** *486SX/20, 4RAM* 80MB HD $1899 120MB HD $2099	**T4500C** *ACTIVE MATRIX VGA* 120MB HD $2949 200MB HD $3199
T2200SX *386SX/20, 2MB RAM* *VGA, 1.44, DOS 5.0* 80MB HD $1099	**T3300SL** 80MB HD $1189 120MB HD $1299	**T6400DX** *486DX/33, 4MB RAM, 2 Slots* *GAS PLASMA Graphics!* 200MB HD $2899	**T4400C** 120MB HD $3199 200MB HD $3799

SONY MONITORS

CPD 1320 14" **$349**	**CPD 1430** 14" **$595**
CPD 1604 17" **$895**	**CPD 1730** 17" **$989**

NEC MONITORS

3FGE **$649**	**4FGE** **$749**
5FGE **$1029**	**6FGE** **$2395**

HEWLETT PACKARD

LASER 4 **$1349**	**LASER 4M** **$1799**	**LASER 4L** **$669**
4SI **$2995**	**4SIMX** **$3299**	**DJ1200** **$1339**
DeskWriter **$289**	**DeskWriter C** **$449**	**DeskWriter 550C** **$679**
DJ500 **$349**	**DJ550C** **$679**	**SCANJET IIC** **$1299**

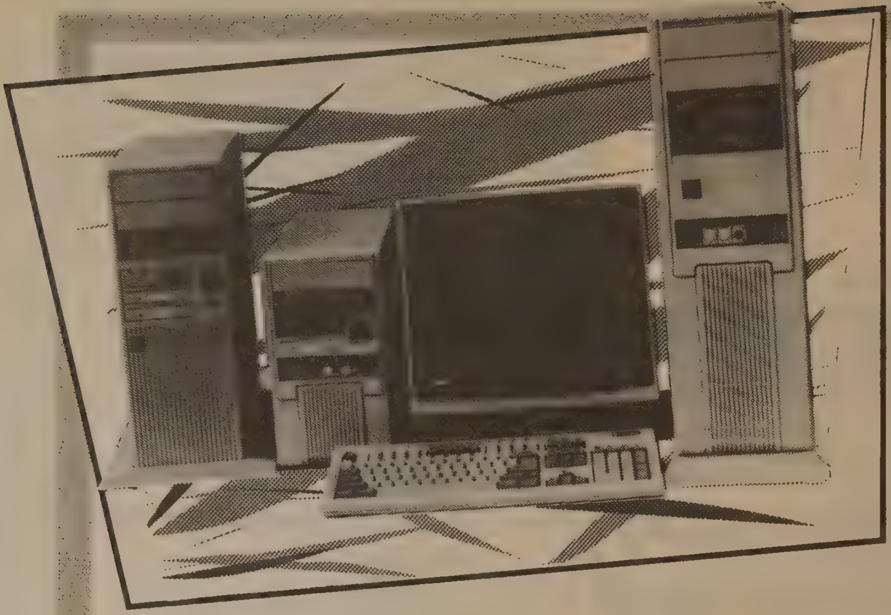
CANON

BJ - 10EX	$249
BJ - 200	$329
BJ - 300	$299

IBM THINKPAD
720C Color 4/160
$4699

COMPAQ

LTE LITE 486/25 Color 209MB $4199
Contura 486/25 M120W $1895
Contura 486/25 M209W $2295
Contura 486/25 CX M120W $3295
Contura 486/25 CX M209W $3495
Prolinea 486/66 M340W $1899
DeskPro 486/33 M340W $3295
Prosignia 486/66 1GIG HD $4795



SHOPPING FOR THE

CALL FOR MEMORY PRICES!

486 EISA + VESA LB System

- 486 CPU w/256K Cache
- 4MB RAM
- 1.44 Floppy Drive
- VLB 32 Bit IDE HD/FD w/I/O
- AT I/O Card
- 101 Enhanced Keyboard
- Vertical Case & Power Supply
- SVGA Monitor, .28dp
- VLB 32 Bit SVGA 1MB Card (1280x1024 Res.)
- 210MB Hard Drive

33MHz EISA VLB	**$1375**
50DX2 EISA VLB	**$1485**
50DX EISA VLB	**$1530**
66DX2 EISA VLB	**$1610**

486 VESA Local Bus System

- 486 CPU w/128K upgradable to 256K
- 4MB RAM
- 1.44 Floppy Drive
- VLB 32 Bit IDE HD/FD w/I/O
- AT I/O Card
- 101 Enhanced Keyboard
- Vertical Case & Power Supply
- VLB 32 Bit SVGA 1MB Card (1280x1024 Res.)
- SVGA Monitor, .28dp
- 170MB Hard Drive

SX 25MHZ VESA LB	**$1095**
SX 33MHz VESA LB	**$1195**
33MHz VESA LB	**$1289**
50DX2 VESA LB	**$1400**
50DX VESA LB	**$1440**
66DX2 VESA LB	**$1519**

486 Caching System

- 486 CPU w/128K Cache
- 4MB RAM
- 1.44 Floppy Drive
- 16 Bit Dual (1:1) HD/FD Controller
- AT I/O Card
- 101 Enhanced Keyboard
- AT Vertical Case w/Power Supply
- SVGA Monitor & SVGA w/1MB
- 170MB Hard Drive
- **Option CPU FAN COOLER...$20**

33DLC	**$1035**
40DLC	**$1115**
33DX MHz	**$1170**
50DX2 MHz	**$1285**
50DX MHz	**$1325**
66DX2 MHz	**$1405**

Pro-Series

Local Bus 486-66MHz System

- 486-66DX2 EISA + VESA LB M/B w/256K
- 16MB RAM
- 1.44 Floppy Drive
- VLB IDE HD/FD Controller w/I/O
- AT Full Size Case w/Power Supply
- Dual FAN On The System
- 101 Enhanced Keyboard
- VLB 32 Bit SVGA 1MB Card (1280x1024 Res.)
- 15" SVGA Monitor (1280x1024 Res., .28dp N-I)
- 245MB Hard Drive

$2285

386-40MHz Cache System

- 386 CPU w/128K Cache
- 4MB RAM
- 1.44 Floppy Drive
- 16 Bit Dual (1:1) HD/FD Controller
- AT I/O Card
- 101 Enhanced Keyboard
- AT Vertical Case w/Power Supply
- SVGA Monitor & SVGA 1MB Card
- 125MB Hard Drive

WE TAKE 486 CPU's
AS TRADE-IN's.
PLEASE CALL FOR INFO!

$890

386SX-33/40MHz System

- 386SX CPU On Board
- 2MB RAM
- 1.44 Floppy Drive
- 16 HD/FD Controller w/I/O
- 101 Enhanced Keyboard
- AT Vertical Case w/Power Supply
- VGA Monitor & VGA Card
- 120MB Hard Drive

$715/$725

TSC Computer Products
1819 N. Floradale Ave.
So. El Monte, CA 91733
Tel (818) 579-2405
Tech. Support (818) 579-1446
FAX (818) 579-9572

"BEST QUALITY" AT THE "LOWEST PRICE"?

FOLLOW US!

MOTHERBOARD

EISA+VLB 486DX2-66MHz w/256K Cache	$735
EISA+VLB 486DX-50MHz w/256K Cache	$655
EISA+VLB 486DX2-50MHz w/256K Cache	$609
EISA+VLB 486DX-33MHz w/256K Cache	$495
VESA LB 486DX2-66MHz w/128K Cache	$590
VESA LB 486DX-50MHz w/128K Cache	$510
VESA LB 486DX2-50MHz w/128K Cache	$485
VESA LB 486DX-33MHz w/128K Cache	$380
ISA 486DX2-66MHz w/128K Cache	$575
ISA 486DX-50MHz w/128K Cache	$495
ISA 486DX2-50MHz w/128K Cache	$470
ISA 486DX-33MHz w/128K Cache	$365
ISA 486DLC-33MHz w/128K Cache	$235
ISA 486DLC-40MHz w/128K Cache	$325
ISA 386-40MHz w/64K Cache	$139
ISA 486SX-25MHz w/128K Cache	$235
ISA 486SX-33MHz w/128K Cache	$330
ISA 386SX-33MHz	$79
ISA 386SX-40MHz	$95

All Motherboards w/CPU & Bios

VIDEO CARD

Monographic Printer Card	$13
VGA 16 Bit 256K Card (800x600 Res.)	$26
VGA 16 Bit 512K Card (1024x768 Res.)	$34
VGA 16 Bit 1MB Card (1024x768x256 Color)	$55
Windows Accelerator w/1MB VGA Card	$69
Speedstar Pro 1MB VGA Card	$130
ATi Graphic Ultra Pro w/2MB VRAM	$395
ATi Graphic Ultra Plus w/2MB DRAM	$289
VLB Speedstar Pro 1MB	$140
VLB Cirrus Logic w/1MB Upgrade To 2MB	$120
VLB OAK Chipset w/1MB Upgrade To 2MB	$109
VLB GENOA w/1MB (1280x1024 Res.)	$129
VLB ET4000/32 (1280x1024 Res.)	$145
VLB ATi Graphic Ultra Pro w/2MB VRAM	$395
VLB Diamond VIPER w/2MB VRAM	$395
VLB Fahrenheit VA w/1MB Upgradable To 2MB	$195

MONITOR

VGA Monitor	$195
14" SVGA 1024x768, .39dp	$235
14" SVGA 1024x768, .28dp	$255
14" SunShine 1024x768, .28dp N-I	$275
14" PROTON 1280x1024, 72Hz, .28dp	$310
15" SunShine 1280x1024, N-I .28dp	$395
15" MAG 1280x1024, N-I .28dp	$545
17" SunShine 1280x1024, N-I .26dp	$695

CASE

Mini Tower Case w/Power Supply	$55
Mid Size Tower Case w/Power Supply	$75
Full Size Tower Case w/Power Supply	$100

HARD DRIVE

IDE 40MB Hard Drive	$125
IDE 80MB Hard Drive	$160
IDE 100MB Hard Drive	$180
IDE 120MB Hard Drive	$190
IDE 170MB Hard Drive	$210
IDE 210MB Hard Drive	$230
IDE 240MB Hard Drive	$260
IDE 340MB Hard Drive.	$330
SCSI 130MB Hard Drive	$250
SCSI 210MB Hard Drive	$345
SCSI 340MB Hard Drive	$595
SCSI 535MB Hard Drive	$929
SCSI 1.2GB Maxtor Hard Drive	$1090
SCSI 1.2GB Fujitsu Hard Drive	$1250
SCSI 1.2GB 8.5ms Maxtor HD	$1450

CONTROLLERS

IDE Hard & Floppy Controller & I/O	$18
IDE Hard & 4 Floppy Controller	$25
IDE w/512K Cache, Upgradable To 8.5M	$105
IDE Cache Controller Upgradable To 16M	$145
AT RLL HD/FD Controller	$45
AT MFM HD/FD Controller	$43
SCSI HD Controller	$85
Adaptec SCSI Controller 512K	$160
VLB IDE HD/FD & I/O Controller	$55
VLB IDE Cache Controller Max. 16M	$185
VLB Ultrastor 34F SCSI 32K Cache	$305
VLB Ultrastor 24F EISA Controller	$379
DC820 EISA SCSI Cache Controller	$395

KEYBOARD

101 Enhanced Non-click Keyboard	$19
101 Enhanced Click Keyboard	$23
101 Super Click Keyboard	$28
FOCUS 8000 Keyboard	$45
FOCUS 9000 Keyboard	$68

FLOPPY DRIVE

Mitsumi 1.2 Floppy Drive	$50
Mitsumi 1.44 Floppy Drive	$47
TEAC 1.2 Floppy Drive	$52
TEAC 1.44 Floppy Drive	$50
TEAC 1.2 & 1.44 On ONE FDD	$135

MULTIMEDIA UPGRADE KIT

CD ROM Drive & Sound Blaster Pro Card

5 Title CD Disk	$399
Mitsumi CD-ROM (350ms)	$195
SONY CD-ROM	$295

SOUND BOARDS

Sound Blaster Pro Deluxe	$135
Pro Audio Spectrum 16	$180
Sound Boomer Card	$58
Speaker For Sound Board	$15

TAPE BACKUPS

Tape Backup Colorado DJ-10	$138
Tape Backup Colorado DJ-20	$195
Tape Backup Archive 250MB	$185
Tape Cartridges 2120 250MB	$17

LASER UPGRADE KIT

UPGRADE YOUR LASER JET PRINTER TO 1200dpi & Also The Speed With:

Laser Master Upgrade Kit	$740
Hewlett Packard IV Printer	$1375

MICE

Mouse Hi-Resolution	$18
Mouse CP-3	$10
Truedox Trackball	$25

FAX & MODEM

Internal 2400B Modem	$30
Internal 9600 Fax 2400B Modem	$45
Smart One Fax 9600 2400B Modem	$55
Internal 14.4 Fax 14.4 Modem	$175
External 14.4 Fax 14.4 Modem	$205

NETWORK CARD

Ethernet 8 Bit (NE1000)	$88
Ethernet 16 Bit (NE2000)	$95
Ethernet 16 Bit (10 Base-T)	$105

TERMS & CONDITIONS

- 1 Year Warranty (Parts & Labor)
- Prices Are Subject To Change Without Notice
- Defective Merchandise Must Have RMA Authorization
- 15% Restocking Charge
- Terms COD Or Prepaid (Cashier Check, Company Check, OAC)
- All Systems 14 Day Money Back Guarantee
- Quantity Discount Available
- Technical Support: (818) 579-1446

Office Hours:

Monday Thru Friday
9:00 AM-6:00 PM

PRICES GOOD W/THIS AD!

D.S.C.

DATA SOLUTION COMPUTER
1928 Tyler, Suite A-168
So. El Monte, CA 91733
Tel (818) 454-1039
FAX (818) 454-1040

Classifieds

Accessories

Need help? Call the best! Patricia (310) 436-4779. WP, Windows, DOS, dBase, Lotus.

HP Deskjet cartridges 51608A, only $15.95 while they last. (310) 996-3188

Tubular locking drive covers for PC, Mac or laptop. Security cables/noboot software options. ZLockMfg. (310)372-4842

"Tame Your PC"

Time indexed 70-minute training video for your personal computer.
Makes computer training fun and easy.
DOS 6.0 compatible. Bonus tutorial diskette.
Intelligent and bright instruction to make you a power user.
$49.95 + shipping and handling
call 1-800-242-2113 visa m/c only

Diskettes

Discription	Non-Formatted	Formatted
3.5" DS/HD	.51ea.	.52ea.
3.5" DS/DD	.35ea.	.36ea.
5.25" DS/HD	.30ea.	.31ea.
5.25" DS/DD	.20ea.	N/A

100 Disks minimum - Call for pricing on smaller quantities

Call 1-800-975-3100

Function One

Display Your PC's Screen on up to 20 Monitors
Model 400
Video Splitter
Extension cables to 250 ft. available.
Made in USA.
Works with VGA, SVGA and RGBS monitors.
Starting at $250
H & R TECHNOLOGY
SANTA ANA, CA (800) 959-6439

Bulletin Boards

Career Connections™

. . . Has gone On-Line
Free access from anywhere/anytime
To view career opportunities (415) 917-2129
To view contract opportunities (415) 917-2125
set your modem to: 8,1,N
set emulation to: ANSI or VT100

Pacific Coast Outlaw BBS. (310) 589-9135 14.4 v.42Bis. (310) 589-9235 2400 MNP7. CD-ROMs, 15 on-line games, 3.5 gigs. 30,000 files. Free access, 8-N-1.

CPI BBS. Voted #1 On-line System. South Bay: (310) 366-7472. Los Angeles: (213) 566-3004. Free trial.

The Westside. LA's largest, most active adult system. 80+ lines, 10000+ GIFs, more! Free trial. (213) 933-4050. (714) 663-9531

UNZIP It! Download sexy GIFs 1(900)844-2200 69¢ per minute. Must be over 18 years old.

Modem Butterfly- Outrageous intelligent fun! Contests, Color GIFs, Shareware, Parties, INSTANT ACCESS. 1200/2400/9600 Baud. (213)264-6900, (714)828-5500, (818)798-9900, (818)787-6900, (310)767-1010, (310)841-6900, (805)581-0700

Last Days BBS (714) 526-3210. Free. USR 14 v.42 bis. Christian/Sports.

Business Opportunities

Desktop Publishing. New business needs highly experienced, motivated person for desktop publishing on IBM PC. Partnership possible! (310) 753-0241

Lifetime income up to 5 figure monthly and 6 figure up front! Free demo disk! Pre-recorded message (818) 377-9531

Start your own business with your IBM/PC. Billing, bookkeeping and others from $99. Call (800) 795-3966

CD-ROM

CD ROM Cables **Sound Card**

- NEC, Texel, Sony, Toshiba, Mitsumi, and more
- Sound Blaster Pro, Pro Audio, and more
- High Quality and Best Price
- Cable Assembly Available

Voice: (408) 988-0788 Fax: (408) 988-2880
A & C International Co., Santa Clara, CA

CD-ROM DRIVES

Toshiba XM-3401B! Double Speed Texel
DM-3024 and DM-5024
SCSI Interface cards Trantor T130
Media Vision Pro 16
Multimedia upgrade kits • Compact Disc Software
Sony CD-ROM Caddies • CD-ROM Accessories
COMPUTERS AT LARGE
Saratoga, CA
Dedicated to CD-ROM Technology
Please Call for Our Price List
800-642-4194 408-255-1081
408-255-2388 Fax

STARDUST SOFTWARE

CD-ROM DRIVES • ALL MAJOR BRANDS
Sony • NEC • Texel • Toshiba • Mitsumi
Largest Selection of CD-Rom Titles
Soundboards
Speakers
Multi-Media
Call Now for our Low Prices & Save
Burbank, CA 818-559-2270

Cartridge Refill

Orange County's Laser Printer Experts! We service & supply ALL laser printers, HP Specialists! Lowest prices on NEW & refurbished supplies. Free delivery all OC. Discount Laser (714) 851-9330, 17845-H SkyPark Circle, Irvine.

Computer Insurance

SAFEWARE
INSURES YOUR COMPUTERS!

Full replacement of hardware, media, purchased software. From $49 yearly. Covers fire, theft, power surges, other accidents. Blanket coverage; no list of equipment needed. Low $50 deductible. Call for information or immediate coverage.

☎ **1-800-848-3469**
Local (614) 262-0559

SAFEWARE: The Insurance Agency Inc.
2929 N. High Street, PO Box 02211
Columbus, OH 43202

HOW TO PLACE YOUR CLASSIFIED AD IN MICROTIMES:

MINI DISPLAYS: 1 column inch=1 5/16"x7/8" . $49 per col/inch, camera ready art, or $49 + $20 for 1X typesetting/production fee.

BUSINESS ADS: Rates are $15 for 15 words or less. 50¢ for each additional word. Your phone number counts as one word.

CATEGORIES: See index to choose the classification that best describes your product or service.

FREE ADS: Private individuals may have one free classified ad of 15 words or less under Hardware, Software, or Accessories only. Mail coupon by the noon deadline for that issue, no phone orders for free ads.

No refunds will be given after copy is received. Credit may be given under certain circumstances

Mail, deliver or fax this coupon along with payment by noon deadline for that issue.

TO RESERVE SPACE
Phone Orders
(213) 851-8600
Fax Orders **(213) 851-8303**
with Visa or MasterCard only.

CLASSIFIEDS CATEGORIES
☐ HARDWARE
  ☐ For Sale
  ☐ Wanted
☐ SOFTWARE
  ☐ For Sale
  ☐ Wanted
☐ ACCESSORIES
☐ BULLETIN BOARDS
☐ SERVICES
☐ BAR CODES
☐ CARTRIDGE REFILL
☐ DESKTOP PUBLISHING
☐ DISK CONVERSION
☐ REPAIRS
☐ VOICE MAIL
☐ MISCELLANEOUS
  ☐ Computer Rentals
  ☐ Office Rentals

Cost of ad ____________ **X number of issues to run** ____________ **= Amt. enclosed** ____________
Discount: 6xs=25% 12xs=50%

☐ Check/MO ☐ Visa ☐ MasterCard Credit Card # ____________ Exp. Date ____________

Name ____________ Amt. ____________

Address ____________

City ____________ State ____________ Zip ____________

Phone (____) ____________

SEND TO: MicroTimes Classifieds, 6767 Forest Lawn Drive, #110 Los Angeles, CA 90068

DEADLINE FOR INSERTION IN THE AUGUST 9, 1993 ISSUE IS NOON ON FRIDAY, JULY 23 1993

Classifieds

Data Conversion

COMPUTER DISK & TAPE CONVERSIONS
Micros • Minis • Mainframes
Floppy, [illegible] & Cartridge formats
DATA CONVERSION SERVICES
(800) 327-0330

Desktop Publishing

CEDAR'S CONSULTING- We scan OCR for 75 cents a page. We also scan graphics in b/w, grayscale and color in so many formats including JPG. We also do file conversion from PC to Mac. In addition we also convert scanned files into different CAD applications and many more. (310)328-2044

Graphic designer, writer, illustrator available. Freelance or part-time. Quark, PageMaker, Freehand, Illustrator. Kathleen, S. Pasadena (818) 799-2195

Employment Information

SALES
POSITION
Join a $uccessful Team!
Experience w/MAC & IBM needed for both retail/corporate sales.
CALL FOR MORE INFORMATION:
310-820-2400

900 NUMBERS MAKE MONEY! Put your computer to work! Outstanding guidebook, 24hr. recorded details 1-800-369-1410.

Hardware

XT clone. Xlnt! EGA color, 30MB HD, mouse, lots of SW, 2 floppies, $320. (714) 255-1798

Powerbook 140 4/40, w/case & 2 batteries, $1700. Also Stylewriter for sale. (213) 720-9911

Ricoh IS410 scanner, 25ppm, ADF, JPEG, 256/256 SCSI, barely used, 1/2 price, $2600. (714) 432-0445

Wholesale Systems Built to your specs. Write to: P.O. Box 5134, Anaheim, CA 92814.

Hardware

1 yr old 52MB, 9MS plus hard drive, $140. Joe, PO Box 5134, Anaheim 92814.

Wren/Seagate 660 MB HD, fast access time, ideal for hard disk recording. (310) 207-3881

Micronics 386-33 motherboard with 16MB daughter-board, $165. 1X9 1MB Simms, $25. Day (714) 965-3110. Eve (213) 385-6378

Hardware

386DX-33 Laptop, 4 Meg Ram, 40 Meg HD, VGA, extra battery, case, $1000. (213) 774-5844

Motherboard V.L. Bus w/Intel 486DX-33 CPU and 256K cache, $350. 15" monitor SVGA, $350. Weitek P9000 video card VL Bus, $250. (818) 707-7180

Mac SE/30: 8MB Ram, 40MB HD, keyboard, mouse, glass glare screen, like new, $1395. (714) 837-1090

DATA RECOVERY
Specializing in DOS, NOVELL, & MACINTOSH.
Self Engineered Tools Provide Over 90% Success Rate • Competitive Prices
Micro Storage
2245 First Street, Suite 116
Simi Valley, CA 93065
Tel (805) 582-9101
Fax (805) 582-9102

System Board Upgrade at Wholesale Price

386SX33	W/2MB RAM	$175
386DX40/128K Cache	W/4MB RAM	$275
486SX25/8K Int. Cache	W/4MB RAM	$295
486DLC33/256K Cache	W/4MB RAM	$415
486DX33/256K Cache	W/4MB RAM	$515

Networking-Netware-Lite: Software, Hardware, Cable Installed
$125 Per Node
BISTATE COMPUTER (714) 491-9749
711 E. Ball Rd. #105 Anaheim, CA 92805

Internal Tape Backup
120MB $89.95
Tape carthridges sold separately.
- Drive(OEM) Software and Manuals.
- 800 Phone Support.
- 6 Month warranty.
- Cable

Your IDE, MFM, SCSI floppy controller will control this tape and 2 floppy simultaniously.

COMPUTER AVENUE
Office Hours: Mon, Wed, Fri 9-5
[illegible]
(714) 963-8280, (800) 963-8280
10840 Warner Ave #112
Fountain Valley, CA 92708
(405 Fwy & Euclid)

Computer: 486SX25 Tower, 1Mb RAM 40Mb HD, 1.20 floppy, SVGA card 101 Keyboard....$629

External 120MB $179.95
Case & AB-controller

14,400 int fax/modem...$179
9600 int fax/2400modem..$39
14" SVGA color monitor .39..195
14" SVGA color monitor .28..245

POWER 1-2-3 COMPUTER N PRINTER
Power

WHOLESALE 486
All have 101E.KB
Minitower + 230W
386SX, one floppy..$250
486SX25 ....$298
486DX33..................$498
486DX266................$798

386DX/40 MHz $899

486DX50 256K, 210MB
4MB RAM, SVGA 14"
VESA Local Bus, 2FL

486DX/50MHz $1388

intel inside

1MB SIMM..............$34
486DX33 M/B..........$99

386DX33, 486DX33, 130MB......$Call......Hungry call!?!
•PRINTER, MONITOR, SOFTWARE, INSTALLATION, MAINTENANCE
14241 E. Imperial Hwy #F, Crossing Valley View, La Mirada, CA
PH: 310-994-6470, 714-522-3821 FAX: 310-994-8240

Hardware

New 46DX33, 170 Meg HD, 2 FD, SVGA monitor, 4MB Ram, lots of extras, software loaded, $1495. (714) 722-1553

9600 external modem, Zoom v.32, selling for $110. Ido (818) 774-9277

Aceex 14.4 modem v32bis, v42bis and fax built-in, $159. Still under warranty. (310) 602-2076

386SX computer system, including monitor, $450/obo. (818) 880-1509

Hardware Wanted

Red Cloud American Indian Society needs computers, components, educational software for reservation schools. These items desperately needed. Tax deductible. (714) 833-3865

NARCONON a non profit organization is seeking donations of computers & printers for their LA office & rehab. Roger Butler (213) 962-2404

Used plotter wanted. Inexpensive, but in good working condition. Vitaly (818) 348-8822

Cash for Simms. Let is re-cycle your old Simms modules. Top dollar paid for you old Mac or PC Simms. Any quantity large or small. (714) 960-1788

Broken Macintosh SE or Plus for parts. Old OK. Pay to $150. Joe (818) 545-8282

Miscellaneous

Buy-sell-trade pre-owned CompuBooks/Software, all computers: disk catalog $1. PMC, Dept MT, 15600 NE8th #A3-412, Bellevue, WA 98008.

Programming

BAR CODE INVENTORY. Efficient "C" Systems. Quick Delivery. National References. 1-800-872-1182

Repairs

Any VGA under 14" $88. Any SVGA $108. Dealers welcome. Data Network "Your Key to Help" (818) 713-8319

REPAIRS & UPGRADES
• PC's/MAC's • Printers
• Monitors • Networks
✓FAST ✓RELIABLE ✓LOW-COST
Notebooks, PCs & MACs NOW ON SALE!
Call: CPS, Inc. (Since 1984)
(714) 532-3746

Repairs

Repairs

MONITORS/UPS REPAIR
- ALL COLOR MONITORS 13"-14" $80
- ALL MONOCHROME MONITORS 13"-14" ..45
- ALL MULTISYNC MONITORS 13"-14" 95
- SPECIALIZED ON IBMs, MACs, NECs, WYSE
- UNINTERRUPTIBLE POWER SUPPLIES (TO 2KVA)
- FREE ESTIMATE...PICK UP...DELIVERY (In O. C.)
- SIX MONTHS WARRANTY

3 DAY TURNAROUND (Average)

ACCUTEK
* SERVICE 7 DAYS A WEEK
* DEALERS WELCOME
24602 Jutewood Place
Lake Forest, CA 92630
TEL: (714) 458-2270 FAX: (714) 458-2947

COMPUTER PRODUCTS GROUP
PC's, Monitor, Printer, & Terminal Repair Specialists
REPAIR SPECIALS
VGA $65 EGA $60 TERMINAL $65
We Also Buy & Sell All Computer Equipment
(714) 285-1419

FREE REPAIR ESTIMATES!
CALL 1-(800) 625-1138
- IBM · MACINTOSH · AMIGA · C64
- MAC REPAIR & UPGRADES
- ALL BRANDS REPAIRED
- COMPONENT LEVEL REPAIR
- LOGIC BOARD REPAIR
- MONITORS · TERMINALS
- POWER SUPPLIES
- MOTHERBOARDS · DRIVES
- PRINTERS · LASERS
- DATA RECOVERY
- WE SHIP OVERNIGHT! · UPS
- DEALER REPAIRS AVAILABLE!
- DEALERS - RESELLERS - VARS - CALL!!

Commodore AMIGA Macintosh Apple ATARI IBM SAMSUNG OKIDATA AST Panasonic. TOSHIBA NEC. MITSUBISHI HEWLETT PACKARD EVEREX PACKARD BELL AT&T EPSON WYSE

TECHNICAL SERVICES (800) (909) 625-1138
4581-D Arrow Hwy · Montclair, CA 91763

UniTek Co.
Hard Disc Services
Specializing in repair of PRIAM
CONNER, MAXTOR, SEAGATE Hard Drives
From 85¢ per MB
(408) 263-9994

Services

TURN YOUR IDEAS INTO PRODUCTS! Complete product development services. Software, hardware, mechanical design and PCB layout. AmeTel (310) 394-7274

PC training, troubleshooting and upgrades. All IBM compatibles, most major software. Custom programming, too. Eve. & wknd. appts. Call Bri-Mex Computing (818) 303-1353

OCR/Scanning. Why type when you can scan? Call: ONE STOP (818) 969-2357

Computer training. Your home/office or ours (LA County). One on one tutoring: WP 5.1, Lotus, DOS, $99/4 hrs. Visa/Mastercard okay. Krick Enterprises (818) 799-2176

Services

Need assistance on PC or Macintosh basics? Need assistance in converting Apple II/Macintosh files to PC files or vice-versa? Nights and weekends. (714) 858-8367

Novell & Windows. If your business computer or network is fighting, not helping you, call PearlMark where "Computers are our life!" San Fernando Valley to Thousand Oaks assistance at very reasonable rates. (818) 993-0727

Masterlink Network Computing. Specializing in state of the art Connectivity, Topologies and Platforms. CNE on-board. (818) 773-3854

Novell Network Specialist. Your complete networking solutions. Supply, installation, troubleshooting. Reasonable rate. Julius (310) 925-7160

On-site Personal Computer Repair. Reasonable rates, please call for free estimate. (213) 549-0911. (818) 386-7400

REPAIRING MONITORS

CGA	EGA	VGA	Multisync
$55	$55	$65	$85

Toner Cartridge Recharge $29.95
HP SERIES II, III, IIP, CANON COPIER PC
(714) 775-0936

Classifieds

Services

Services

Services

Services

Services

Services

MICROPOLIS 3.5" **High Quality External Enclosure Kits For Hard Drives & Tape Drives Are Available.**
2112 1.05gig $1059
1924 2.4gig $1979
DEC 3.5" "All Drives Are Fast SCSI-2"
1.05gig $1079
1.7gig $1350
FUJITSU 3.5"
2624 520meg $699
Toshiba 3.5"
538 1.2gig $1050

SCSI Cards:
AHA1522 $75
AHA1542 $189

DAT 2.0gig.....$965
DAT 4.0gig.....$1065
1/4in 250meg..$419
1/4in 525.........$529
1/4in 1gig.........$649

Call Now !!! E&OE

800-285-6841
Outside California

RAID 5 Disk Array Subsystem
3 x 1.2gig Plug&Play
Complete w/ Software & Card
RAID5 *$4995* RAID5

PLEXUS DATA
Irvine, CA
Tel 714-863-6933
Fax 714-863-1542

Call Us For Other Quality Items !

CATALINA TECHNOLOGY
FULL SERVICE COMPUTER SALES, SERVICE & REPAIR
ALL COMPATIBLES!
SPECIALIZING IN HARD DISK REPAIR
• 2 to 5 Day Turnaround • Full Warranty On Repair
WE SELL NEW & RECONDITIONED PRODUCTS!
(714) 434-9144
3422 L West MacArthur Blvd.
Santa Ana, CA 92704

WE WILL BEAT ANY ADVERTISED REPAIR & SALE PRICE

HARD DRIVE REPAIR PRICE			SALE PRICE	*DATA RECOVERY
CAPACITY	MFM/ IDE/RLL	ESDI/ SCSI	MFM/RLL ESDI/SCSI	MFM/RLL/IDE ESDI/SCSI
10 – 19MB	$50	N/A	$60	$180
20 – 29MB	$55	$65	$69	$230
30 – 39MB	$65	$75	$79	$280
40 – 49MB	$75	$85	$109	$330
50 – 85MB	$105	$115	$169	$380
86 –119MB	$115	$125	CALL	$430
120 –160MB	$125	$135	CALL	$480
161 –230MB	$165	$175	CALL	$530
231 –430MB	$215	$225	CALL	$580
431 –700MB	$325	$335	CALL	$630

* Data recovery includes repair of the drive.
*No charge if we are unable to recover data.

FLOPPY DRIVE REPAIR PRICE
5.25" (360K & 1.2MB)............$20
3.5" (720K & 1.4MB)..............$25
3.5" PS/2 (720K & 1.4MB).....$35

INSTALLATION
HARD DRIVE....$30
FLOPPY DRIVE..$15

WE BUY & TRADE-IN WORKING OR NON-WORKING HARD DRIVES & MONITORS

MONITOR REPAIR PRICE (12" & 14")

MONITOR QUANTITY	1	2-5	6-10	11+
Any Mono	$39	37	35	33
Any CGA	$55	53	51	49
Any EGA	$59	57	55	53
Any VGA	$69	67	65	63
Any Super VGA	$75	73	71	69
Any Multisync	$89	87	85	83
Any Mono Terminal	$65	63	61	59
Any Color Terminal	$89	87	85	83

CRT AND FLYBACKS EXCLUDED
FREE Pick-up & Delivery in O.C. if More Than Five Monitors

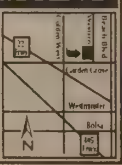
SPECIAL SALE OF THE MONTH

BASIC SYSTEM
386DX-40MHz..............................$699
486SX-25MHz..............................$725
486DX-33MHz..............................$959
486DX-50MHz..............................$1095
486DX2-66MHz............................$1170
ALL VESA LOCAL BUS Add $99

BASIC SYSTEM INCLUDES
- 4MB memory
- 1.2 & 1.44MB TEAC FDD
- SUPER IDE I/O
- SVGA w/1MB Trident
- SVGA Monitor, .28
- Mini tower case
- 101 Enhanced keyboard
- FREE mouse

HARD DRIVE OPTIONS
CONNER/MAXTOR/SEAGATE/WESTERN DIGITAL (IDE)
105MB..$159
130MB..$169
170MB..$189
210MB..$213
245MB..$232
260MB..$249
340MB..$297
450MB..$486

PRO COMPUTER COMPANY
12761 Western Ave., Suite B
Garden Grove, CA 92641
Tel.: (714) 891-8293
Fax: (714) 891-3269
Business Hours:
8:30am to 6:00pm Mon. thru Fri.
Sat. 10:00am to 4:00pm



CUSTOM PROGRAMMING
FoxPro 2, dBase, Clipper, C,
Novell, Windows, SBT, Accounting,
Manufacturing, Point of Sale,
Any Special Applications
CALL DILIP (714) 994•3304

SOFTWARE DUPLICATION
Serving all of Southern California & the U.S.A. since 1980!

•Competitive Prices	YES	•Verifiability	YES
•5 1/4" & 3 1/2" Format	YES	•Quality	YES
•Fast Turn Around	YES	•Service	YES
•Packaging	YES	•Name Brand Media	YES

FSI FUTURE SOLUTIONS, INC.
17921G SkyPark Circle
Irvine, CA 92714
(714) 250-1133

NOVELL NETWORKS TRAINING
- Seeking a career change?
- Want to enhance your skills?
- We offer a low cost solution.

■ CNE program $1895
■ 5 day quick CNE $1195
■ Includes manuals & hands-on

Call Hitek Solutions (714) 474-8270

A SOFTWARE DUPLICATION Wizard
BEST PRICING!
All 3.5" & 5.25" Formats
IBM Apple Macintosh Amiga PS/2
Commodore 64 CP/M Atari 520 ST
Wang Xerox Zenith TRS-80 UNIX
(714) 641-6691 FAX: (714) 641-6693
Santa Ana, CA

COMPUTER HELP!
FOR MAC & IBM
- Hardware & Software Installation
- System Set-up
- Consulting and Training
- General Computer Help
- Upgrades

Plus great prices on Software!
You can come to us or
we can come to you for just $40/hr.
CONSUMER COMPUTING (818) 445-2633

Don t Delay,
Do it Today!!!

DUPLICATION
IBM OS/2 · MACINTOSH · APPLE
COMMODORE · ATARI
24 Hour Turnaround.
Fastest in the West,
No Minimums!!! Custom Printed
Tyvek Sleeves & Labels
Optical Text Scanning
I.D. DISK CO. 818-882-6454
NATIONWIDE 1-800-882-6454

PC SERVICE
■ Novell & Lantastic Service & Upgrades
■ System Upgrades
■ Authorized Service Center for Printers, Peripherals, & Systems Repair
22017 Sherman Way, Canoga Park, CA 91303
Fax 818-887-1470 **818-887-0040**

Recycle Your Toner Cartridges
APPLE•CANON•HP•IBM
- Save 40% in Cartridge Costs
- Print Quality as Good As New
- Important Recycling Opportunity
- Free Pick-Up and Delivery in Greater Los Angeles Area
- Fully Guaranteed

(818) 305-0844 or (213) 624-0089
LAZER Cartridge Service
We also buy empty cartridges

NEW 14.4K FAX/MODEMS at DISCOUNT
UPGRADE to 14,400bps starting from $185 and up. AT&T, Hayes, Practical Peripherals, DigiCom, US Robotics, ZyXEL and others. S/W Included. 16,550 AFNs available. Visa/MC accepted. FREE shipping via UPS.
To order Call: **800-795-4756**

AutoCAD SERVICES
Digitizing
Scanning
Plotting
Hardware
Training
Customization
(714) 857-2885

Software

Used Software *Bought and Sold* Original diskettes, manuals, LICENCE. Virus free. Get technical support, up-grades no hassle. Be street LEGAL. Sell outdated software for CASH. (310) 527-4268. White Elephant Software, 19800 Hawthorne Blvd., #258, Torrance, CA 90503

WordPerfect 5.1 for DOS 3 1/2", never opened, $195. Todd (714) 957-5165 or (714) 854-7119

Stacker & Dr. DOS 6.0, both $40. New Hayes 2400 modem, $60 cash. (714) 848-3628

Excellence In Graphics Clipart. 2 1MB 1,4MB disks. Send check $8 P&H: ASG, 16787 Beach Blvd. #733, Huntington Beach, CA 92647.

Software

Lotus 1-2-3 Windows release 1.1, includes Adobe type manager/Lotus organizer, unopened, $200/obo. (714) 458-1024

B&B BITS & BYTES
5GB Shareware Adult Gifs
3 E-Mail Networks
(Throbnet/U'NI/RIME)
50+Door Games
400+Conferences
500+New Files Weekly
7LINES (19.2K DOWN TO 1200)
(909) 356-5762
1 WEEK *FREE* ACCESS!!!

Software Wanted

We Buy Computer software. All kinds, any quantities. Cash paid! (714) 751-2024

CLASSIFIEDS
MICROTIMES
CALL TODAY
213 851-8600

The San Diego
COMPUTER
FAIR September
10-12, 1993

Music, Flying, Railroads, Therapy and Computers . . .

all this and much more will be at The San Diego Computer Fair '93

The San Diego Computer Fair

San Diego Concourse
Convention & Performing
Arts Center

Third & B Street
Downtown San Diego

September
10, 11 & 12
Friday: 9 a.m. to 8 p.m.
Saturday: 9 a.m. to 7 p.m.
Sunday: 10 a.m. to 5 p.m.

Fair Passport
Advance Three-Day Registration Including Seminars: $15

Exhibit Ticket
One-Day Admission: $7
Free for Children Under 12

For More Information Call (619) 573-0617

Seminars

Beginning Computing

- An Introduction to Amiga's CLI
- DOS Secrets for Beginners
- Demystifying Computer Systems
- Designing a Simple Application in Xbase
- Digital Dave's Beginning *Windows*
- Getting Started With Databases
- Using Batch Files to Make Your Computer Friendly
- Using Macs in Business
- Wow! What's All This Stuff in My Computer?

Business

- Avoiding Pitfalls in Computerizing a Small Business
- Barcodes in Business
- Computerization of Law Firms
- Getting Control of Business Computing
- How to Become a Successful Consultant
- How to Choose an Accounting System for Your Business
- Macs vs. PCs
- Marketing Yourself . . . Successfully
- Rights and Responsibilities in Computer Retail
- Small Business Management
- Steps to Starting a Computer Business
- The International Market for Computers and Software
- Time Management That Works
- Windows NT and *Windows for Workgroups* Networks

Communications

- Alternatives to Modems
- Amateur Radio Meets the Computer
- An Introduction to the World of Internet
- Computer Faxing—A Better Alternative in Many Situations
- Interactive Voice Response Systems
- Modem Demonstration
- PC Voice Mail Systems
- Put a Library in Your Computer

Desktop Publishing

- Newsletters for the '90s
- Workflow for Desktop Publishers

Education

- Creativity Tools for Kids
- Helping Your Kids at Home—With a Computer!

Graphics

- CAD—Enhancing Professional Design
- Digital Photography With *PhotoShop*
- Sign Making Using Your Mac
- Using Type as a 3-D Design Element

MIDI

- MIDI and Practical Applications
- Pump Up the Volume—Music and Computers

Multimedia

- Computer Audio
- Getting Started With Macintosh Multimedia
- Introduction to Image Rendering
- Macintosh Multimedia
- Multimedia: It's Just About Everywhere You Look
- The Basics of Multimedia Hardware and Applications
- Video Compression

New Technology

- Fuzzy Logic Decision Making
- Fuzzy Logic: All You Wanted to Know
- LEGIS Full-Text Retrieval
- OOPS Is No Mistake
- The Future of CD-ROM
- Where Are We Going?

Personal Growth

- Computers and Genealogy
- Computers for Crafts
- Settling Arguments With a Computer
- Visual Ergonomics for Computer Users
- Why Do My Eyes Hurt?

Spanish

- Computers in a Spanish Speaking World
- How to Use a Database for Your Business
- Int'l Business Software for NAFTA and Maquiladoras
- PC International Communications
- What Is a Database?

Special Presentations

- Knowledge-Based Systems—An Introduction to Artificial Intelligence
- Multimedia Show
- Neural Networks for Novices
- Virtual Reality—Tomorrow's Technology Today!

Tips & Techniques

- Advanced DOS Secrets
- Basic Macintosh Networks
- Custom Programming for Small Businesses
- Fine-Tuning *Windows* 3.1
- Hard Disk Problems
- How Do I Hook That Up to My Computer?
- Making Your Programs Truly "User-Friendly"
- Memory Management on Your PC
- The Mad, Mad World of Database Systems
- What REALLY Makes a Computer Tick
- Why Choose a GUI?

Exhibits

Don't miss our exciting exhibits combining computer technology with:

- Diet and Exercise
- Monitoring Blood Pressure
- Pen Computing
- Making Music
- Health and Fitness
- Books that Speak to Children
- Shopping
- Interactive Education
- Relationship Compatibility Testing
- Selecting Plants for Your Garden
- 3-D Combat Games
- Fantasy Role-Playing Adventure Games
- Sports Simulations
- Computer-Based Painting
- Video Toaster Technology
- Store Family Photos on CD-ROM
- Golfing with Computers
- Cartooning
- Making Movies
- Creating Artificial Intelligence
- Model Railroads
- Flying Airplanes
- Drawing and Painting
- Personal Finance
- Making a Small Business Profitable
- Sewing and Knitting
- Computer Therapy
- Becoming a Computer Musician
- Learning Crime Statistics About Your Neighborhood
- Learning a Foreign Language
- Animation
- Supercomputers
- 3-D Graphics
- Video Conferencing
- Virtual Reality
- Calligraphy
- Personnel Aptitude Testing
- Home Automation
- Creating Music Videos
- Karaoke
- Interactive Games
- Tracing Your Family Tree
- Personal Video Production
- Making Movies
- On-Line Schools
- Interactive Encyclopedias
- Professional Sports Updates
- Finding Your Way Around Town
- Computer Tools for the Physically Challenged
- Writing a Best-Selling Novel

Plus Computer-Generated Jazz Concert, Festival of Computer Animation, Weird Software Contest, Worst Computer Nightmare Contest, Kids' Corner, Prizes, Computer Bargains, Clowns, and much, much more.

Keynote Speakers: Timothy Turnpaugh, President and CEO of Egghead Software and Gordon E. Ubanks Jr., President and CEO of Symantec Corporation.

"Unlike Any Computer Show You've Ever Seen Before"

Datamini SYSTEM

310-769-1970
714-670-6321

486-66 DX2
* 80486DX-66 CPU
* 256K Cache
* **170 MB IDE** HD
* Digital Mini Tower
* 1.2 & 1.44 MB FD
* Trident w/1MB SVGA/ Local Bus w/1MB SVGA
* Super IDE I/O Cont.
* 4 MB Ram 70 N/S
* AT101 Keyboard
* 14" NI SVGA Monitor.28

$1379.00
$1399.00 Local Bus

486-50DX Intel
* 80486DX-50 CPU
* 256K Cache
* **170 MB IDE** HD
* Digital Mini Tower
* 1.2 & 1.44 MB FD
* Trident w/1MB SVGA / Local Bus w/1MB SVGA
* Super IDE I/O Cont.
* 4 MB Ram 70 N/S
* AT101 Keyboard
* 14" NI SVGA Monitor.28

$1319.00
$1349.00 Local Bus

486-33DX Intel
* 80486DX-33 CPU
* 256K Cache
* **170 MB IDE** HD
* Digital Mini Tower
* 1.2 & 1.44 MB FD
* Trident w/1MB SVGA / Local Bus w/1MB SVGA
* Super IDE I/O Cont.
* 4 MB Ram 70 N/S
* AT101 Keyboard
* 14" NI SVGA Monitor.28

$1149.00
$1199.00 Local Bus

486-33CX Cyrix
* 80486CX-33 CPU
* 256K Cache
* **170 MB IDE** HD
* Digital Mini Tower
* 1.2 & 1.44 MB FD
* Trident w/1MB SVGA
* Super IDE I/O Cont.
* 4 MB Ram 70 N/S
* AT101 Keyboard
* 14" None Interlaced SVGA Monitor .28

$1049.00

386-40SX
* 80386SX-40 CPU
* **42 MB IDE** HD
* Digital Mini Tower
* 1.2 & 1.44 MB FD
* 16 bit SVGA w/256k
* Super IDE I/O Cont.
* 2 MB Ram 70 N/S
* AT101 Keyboard
* 14" SVGA Monitor .39

$642.00

386-40DX
* 80386DX-40 CPU
* 128K Cache
* **170 MB IDE** HD
* Digital Mini Tower
* 1.2 & 1.44 MB FD
* Trident w/1MB
* Super IDE I/O Cont.
* 4 MB Ram 70 N/S
* AT101 Keyboard
* 14" None Interlaced SVGA Monitor .28

$899.00

HARD DRIVE

Conner 170MB	$ 189.00	Maxtor 345MB	$ 299.00
Conner 120MB	$ 175.00	W.D. 213MB	$ 215.00
Maxtor 130MB	$ 179.00	W.D. 255MB	$ 279.00
Maxtor 213MB	$ 210.00	Seagate 40MB	$ 115.00
Maxtor 245MB	$ 240.00		

MONITORS
VGA IBM 8513 12" Color........$ 140.00
Edison .39 14" SVGA............$ 195.00
Edison .28 14" SVGA............$ 229.00
Sunshine .28 NI SVGA...........$ 245.00
Sunshine .28 NI 15"SVGA......$ 399.00
Samsung .31 17" SVGA.........$ 659.00
Samsung .32 20" SVGA.........$1499.00
Low Radiation ACR 17"..........$ 999.00

MULTIMEDIA / CD'S
SONY 31A CD-Rom, interface 490ms 64k buffer 150kb/sec..............$239.00
MITSUMI LU005S CD-ROM, i/f 350ms 32k buffer, 175kb/sec............$199.00
QUICKSHOT PC sound kit,incls:card spkr/sw..................................$110.00
SOUNDBLASTER pro Deluxe kit w/ Enc. CD&S/W........................$139/00
SOUNDBLASTER 16 ASP 16 bit w/ mphone CD...........................$239.00
PRO AUDIOSPECTRUM 16 bit card SCSI drv-text to speech......... $179.00
PRO AUDIOSPECTRUM STUDIO 16 same asabove w/voice regco..$239.00
MITSUMI Mulimedia kit...........$349.00
SONY Multimedia kit..............$439.00

LASER PRINTERS
HP 4 Laser.............$1329.00
HP 4L Laser...........$ 665.00
HP IIIP Laser..........$ 819.00
HP 500...................$ 369.00
HP 500C.................$ 469.00
Okidata 400............$ 529.00
Okidata 830............$ 950.00
Okidata 810............$ 925.00

VIDEO CARDS
256k Card.................$ 25.00
1 MB Trident..............$ 52.00
Local Bus Genoa.......$120.00
Local Bus Orchids.....$179.00
Diamond Stealth........$195.00

All systems come with a one year guaranty Extended support & service option available **Dealer inquires welcome**

MOTHER BOARD
386-SX 40MHZ......................$ 99.00
386-40DX 128K cache...........$ 129.00
486-33DX 256K cache...........$ 385.00
486-33DX Local Bus..............$ 399.00
486-50DX 256k cache............$ 519.00
486-50DX Local Bus..............$ 539.00
486-66DX2 256k cache..........$ 599.00
486-66DX2 Local Bus.............$ 619.00

ACCESSORIES
MidTower case w/ps...............$ 66.00
MiniTower case w/ps..............$ 43.00
FullTower case w/ps...............$ 89.00
Desktop case w/ps.................$ 55.00
1.2 MB FD 5" 1/4....................$ 45.00
1.44 MB FD 3" 1/2..................$ 42.00
Key Board 101........................$ 18.00
Key Board 101BTC.................$ 22.00
Key Board Focus 2001...........$ 45.00
Mouse....................................$ 10.00
Track Ball...............................$ 29.00
120 MB Tape Backup.............$159.00
250 MB Tape Backup.............$199.00

IO CARD
AT I/O 2S,1P, 1G....................$ 14.00
AT I/O SUPER IDE..................$ 17.00
AT I/O Local Bus w/IDE...........$ 59.00
AT I/O Local Bus w/cache........$ 99.00

FAX / MODEM
2400 Modem Card..................$ 29.00
9600/2400 Fax Modem ....$ 45.00
14400 Fax/Modem..................$165.00
(All internal)

PRINTERS
Panasonic 1123 24 pin............$180.00
Panasonic 2123 24pin.............$235.00
Color Kit.................................$ 45.00
Cannon Bubble Jet..................$279.00

SCANNERS
Relisys Cold scan...................$749.00
Microtek ScanMaker II.............$829.00
(600x600 Dpi)

KAMFOZ
COMPUTER SYSTEMS
14612 Crenshaw Blvd.
Gardena, CA 90249
Phone (310) 769-1970
Fax (310) 523-9190

ACT
7342 Orangethorpe Ave. Suite # A-209
Buena Park, CA 90621
Phone: (714)670-6321
Fax (714) 670-6322

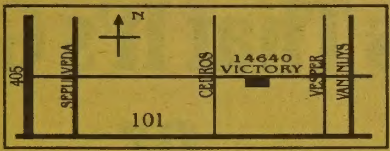
ADVERTISERS INDEX

3-6 COMPUTERS 66
20/20 TECHNOLOGIES 139
A & P COMPUTERS 93
A-1 COMPUTERS 76,77
ACI, AMERICAN COMPONENT INT'L 143
ACP 58,93
ADVANCED COMPUTER CENTER 71
ALCOM SYSTEMS 161
ALL IN ONE COMPUTER CENTER 69
ALPHANUMERIC INT'L 57
AMERICAL GROUP 3
ASEAN COMPUTER TECHNOLOGIES 94,95
ASIFIL CORPORATION 72
ATC—HOLLYWOOD 37
ATC—LA 23
AUTHORIZED TECHNICAL SERVICES 151
AUVA COMPUTER 126
B & N COMPUTER 60
BETTER DOMAIN, INC. 56,130
BINOMIAL SYSTEMS 39
BOLD DATA TECHNOLOGY 92
CALIFORNIA COMPUTER SYSTEMS 32,33
CD GROUP 60
CERTIFIED NETWORK EDUCATORS 17
CITICOM COMPUTER, INC. 47
CMOS 38
COAST COMPUTERS, INC. 112
COMPU EXPO '93 146
COMPUHELP COMPUTERS 138
COMPUTEK 25
COMPUTER BUSINESS CENTER 106,107
COMPUTER EDGE MAGAZINE 159
COMPUTER LIQUIDATION CENTER 114
COMPUTER MARKETPLACE 111
COMPUTER MAX 127
COMPUTER PACER 19
COMPUTER PLAZA 62,63
COMPUTER SUPPLY CLUB 78
COMPUTER SWAP 18
COMPUTERLANE, INC. 52
COMPUTIX 113
COMTRADE 104
CONTROL DATA SYSTEMS, INC. 70
CORPORATE SYSTEMS CENTER 30
D.C. COMPUTER, INC. 62,63
DAEC, INC. 10
DAV-TECH 4,5,55
DOMINO COMPUTER 2
ELECTRONIC MUSIC BOX 137
EZ COMPUTER 48
F.C. INTERNATIONAL CO. 112
FORMINCO 8
FRONTIER COMPUTER 118
FRY'S ELECTRONICS 81–86,163
GATETRONIX CONTROL SYSTEMS 67
GOODMAN MUSIC 9,152
HACKER ELECTRONICS 8
HAL CONSULTING 17
INFINITY SYSTEMS GROUP 120,121
INPUT AUTOMATION 46
JENLISH INTERNATIONAL 131
JUST-THE-FAX 34
K-NET 123
KAMFOZ COMPUTER SYSTEMS 160
KATRONIC COMPANY 103
L.A. COMPUTER CENTER 153
LINNEX COMPUTERS, INC. 26
LOGICACHE COMPUTERS, INC. 102
MACRO TECHNOLOGIES 129
MAGICTEK COMPUTERS, INC. 108,109
MASTERS SOFTWARE 129
MAXIMUS 132
MERLION COMPUTER 64
MESA COMPUTERS 42
MICRO AMERICA 73
MICRO LEAGUE 44
MICRO MAXI 96
MICRO-CITY/GST, INC. 100,101
MICROSEL PERIPHERALS 60
MT. SIERRA CAREER COLLEGE 114
NET AMERICA 38
NET COMPUTER 140,141
NEW TECHNOLOGIES 98,99
OKIDATA 7
PACIFICO COMPUTER CENTER 68
PASADENA COMPUTER CENTER 124,125
PC CONSULTANT CLUB 105
PC FACTORY 11
PC SERVICE 21
PRO COMPUTER SERVICE COMPANY 128
PRO STAR 29
PROFESSIONAL PROGRAMMING 87
QUALITY COMPUTER 10,74,75
QUALITY TIME COMPUTERS 134
QUARTERDECK OFFICE SYSTEMS 164
RANTEK COMPUTER CENTER 40,41
ROYAL COMPUTER 74,75
TAMARACK SYSTEM INTEGRATION 115
THE ESSENCE GROUP 88–91
THETA COMPUTER 61
TOP COMPUTER SYSTEMS 16
TRANSNATIONAL ELECTRONICS, INC. 142
TSC U.S. TURBO SYSTEM 154,155
UNITEK COMPUTER STORES 13–15,130
UQM COMPUTER 97
USA SYSTEM AVE 28
USM DISTRIBUTORS 116,117
VERBATIM CORP 87
VERTICAL ENTERPRISES 65
WORLD NET COMPUTERS 31
YOKOHAMA TELECOM CORPORATION 80
ZENON 149

This index is provided as an additional service. Although we do our best to maintain accuracy, the Publisher does not assume liability for errors or ommissions.

ALCOM SYSTEMS

14640 Victory Blvd., #118, 125 & 130
Van Nuys, CA 91411
(Showroom at #125)
TEL: (818) 989-9182
FAX: (818) 989-2371
Mon - Fri 9-6
Sat 10-5



SPECIAL OFFER

- Microsoft DOS 5.0 or 6.0 w/Manual
- Microsoft Windows 3.1 w/Manual
- Microsoft Works for Windows w/Manual
- (Includes Word Processor, Spreadsheet, Database, Graph, etc.)
- Microsoft Publisher
- Microsoft Money
- Central Point Anti-Virus for Windows

ALL for only **$99** w/purchase of regular systems

High Performance VESA Standard LOCAL BUS Systems

486DX2-66 MHz

- 80486DX2-66 MHz with INTEL CPU
- 256K cache on board
- 3 VESA STANDARD LOCAL BUS slots
- 4 MB memory (70ns)
- Memory expandable to 32 MB
- 1.2 MB & 1.44 MB floppy drive
- 170 MB IDE hard drive
- 32 bit VL-BUS accelerator card w/ 1 MB
- Up to 1280 X 1024, 16.8 million color
- 14" Multisync SVGA monitor, .28 dp
- VESA standard, NON-INTERLACED display
- 2 serial, parallel, & game ports
- Enhanced 101 key keyboard
- Full tower case w/ 250 Watt p.s.
- 2 cooling fans for extra protection
- High resolution mouse w/pad

$1599

486DX-50 MHz

- 80486DX-50 MHz with INTEL CPU
- 256K cache on board
- 3 VESA STANDARD LOCAL BUS slots
- 4 MB memory (70ns)
- Memory expandable to 32 MB
- 1.2 MB & 1.44 MB floppy drive
- 170 MB IDE hard drive
- 32 bit VL-BUS accelerator card w/ 1 MB
- Up to 1280 X 1024, 16.8 million color
- 14" Multisync SVGA monitor, .28 dp
- VESA standard, NON-INTERLACED display
- 2 serial, parallel, & game ports
- Enhanced 101 key keyboard
- Full tower case w/ 250 Watt p.s.
- 2 cooling fans for extra protection
- High resolution mouse w/pad

$1519

486DX-33 MHz

- 80486DX-33 MHz with INTEL CPU
- 256K cache on board
- 3 VESA STANDARD LOCAL BUS slots
- 4 MB memory (70ns)
- Memory expandable to 32 MB
- 1.2 MB & 1.44 MB floppy drive
- 170 MB IDE hard drive
- 32 bit VL-BUS accelerator card w/ 1 MB
- Up to 1280 X 1024, 16.8 million color
- 14" Multisync SVGA monitor, .28 dp
- VESA standard, NON-INTERLACED display
- 2 serial, parallel, & game ports
- Enhanced 101 key keyboard
- Medium tower case w/ 230 Watt p.s.
- 2 cooling fans for extra protection
- High resolution mouse w/pad

$1359

Affordable ISA Systems

486DX2-66 MHz

- 80486DX2-66 MHz withm Intel CPU
- 256K cache on board
- 4 MB memory (70ns)
- Memory expandable to 32 MB
- 1.2 MB & 1.44 MB floppy drive
- 170 MB IDE hard drive
- SVGA card w/ 1 MB memory
- 14" Multisync SVGA monitor, .28 dp
- VESA standard, NON-INTERLACED
- 2 serial, parallel, & game ports
- Enhanced 101 key keyboard
- Full tower case w/ 250 Watt p.s.
- 2 cooling fans for extra protection
- High resolution mouse w/pad

$1539

486DX-50 MHz

- 80486DX-50 MHz with INTEL CPU
- 256K cache on board
- 4 MB memory (70ns)
- Memory expandable to 32 MB
- 1.2 MB & 1.44 MB floppy drive
- 170 MB IDE hard drive
- SVGA card w/ 1 MB memory
- 14" Multisync SVGA monitor, .28 dp
- VESA standard, NON-INTERLACED
- 2 serial, parallel, & game ports
- Enhanced 101 key keyboard
- Full tower case w/ 250 Watt p.s.
- 2 cooling fans for extra protection
- High resolution mouse w/pad

$1459

486DX-33 MHz

- 80486DX-33 MHz with INTEL CPU
- AMI BIOS
- 256K cache on board
- 4 MB memory (70ns)
- Memory expandable to 32 MB
- 1.2 MB & 1.44 MB floppy drive
- 170 MB IDE hard drive
- SVGA card w/ 1 MB memory
- 14" Multisync SVGA monitor, .28 dp
- VESA standard, NON-INTERLACED
- 2 serial, parallel, & game ports
- Enhanced 101 key keyboard
- Mini tower case w/ 230 Watt p.s.
- High resolution mouse w/pad

$1269

386DX-40 MHz

- 80386DX-40 MHz with AMD CPU
- AMI BIOS
- 128K cache on board
- 4 MB memory
- Memory expandable to 32 MB
- 1.2 MB & 1.44 MB floppy drive
- 170 MB IDE hard drive
- 16 bit SVGA card w/ 1 MB memory
- 14" Multisync SVGA monitor, .28 dp
- VESA standard, NON-INTERLACED
- 2 serial, parallel, & game ports
- Enhanced 101 key keyboard
- Mini tower case w/ 230 Watt p.s.
- High resolution mouse w/pad

$999

MULTIMEDIA UPGRADE KIT

Specifications:

- **Sound Blaster Pro sound board**
  - Stereo digital/analog mixer for stereo audio sources: DAC, FM, microphone, line-in and CD
  - 20 voice, 4-operator OP1-3 FM synthesizer
  - Output power amplifier with volume control
  - Built-in MIDI interface for music and sound creation
- **SONY CD-31A CD-ROM Drive**
  - MPC compatible
  - Mode-1 550MB/Mode-2 680MB capacity
  - 64K buffer size
  - 490ms access speed
  - Data transfer rate: 150KB/sec.
  - Supports Kodak photo CD format
- **Software Bundle**
  - Multimedia Encyclopedia
  - World Atlas
  - U.S. Atlas
  - Referance Library
  - The San Diego Zoo Animals
  - The Secret of Monkey Island

FREE SPEAKERS & PHOTO CD ACCESS

Only $459

QUALITY & SERVICE YOU CAN COUNT ON

All name brand & quality components
All systems are fully tested & burned-in for 72 hours
Free upgrade at no extra labor charge *
Free lifetime technical support
Friendly customer service

One year parts & labor warranty

30 Days Money Back Guarantee

20% restocking fee on non-defective parts

On-site Service, Delivery & Setup, Training
Extended Warranty
Available

Price subject to change without notice

* Apply only during the warranty period. Ask for detail.

Prices reflect 3% cash discount

Logitech DEXXA Mouse	$ 22
Trackball Mouse	$ 25
2400 Internal Modem	$ 35
96/24 Internal FAX/Modem	$ 65
14.4/14.4 Internal FAX/Modem	$ 169
Sound Blaster Pro Deluxe	$ 135
SONY Int. CD-ROM (490ms)	$ 249
TEXEL Int. CD-ROM (265ms)	$ 425
With Software Bundle -- ADD	$ 100
Panasonic 2123 24-pin Printer	$ 229
Okidata 400 Laser Printer	$ 499*
Colorado 120 MB Tape Drive	$ 159
Colorado 250 MB Tape Drive	$ 219
MAG MX15F 15" Monitor, .28dp	$ 549
MAG MX17F 17" Monitor, .26dp	$ 975
MGC 15" Flatscreen Monitor	$ 399

* after $50 mfg rebate

Revisiting The Parallel Universe After Reports That It's Getting Weirder or Meandering Around World XA-1b

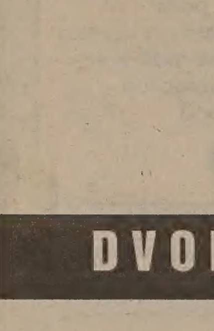
BY JOHN C. DVORAK

As physicists and time-travelers alike know, there are parallel universes. If you want to visit them, the key is finding the intersects. Years ago, the University of California opened a set of gateways to various parallel universes determined to be stable.

DVORAK'S LAST COLUMN

I was allowed to enter World XA-1b, a universe that closely parallels our own, especially in the area of technology, where almost everyone involved in our world's computer business exists in World XA-1b, except that they all have different jobs. I had the opportunity to catch up on these developments last month when the operators of the secret Berkeley gateway allowed me two days in World XA-1b.

Here's my report.



© 1992 by John C. Dvorak. All rights reserved. John C. Dvorak graduated from the University of California. He is a contributing editor of PC Magazine *and* MacUser, *and is considered by many to epitomize the contrarian view of things—a charge that he vehemently denies. Dvorak's motto is: If you have nothing nice to say, then don't say anything at all.*

It was hot and sunny today. I was at CORDEX, the Corporate Exhibition run by David Bunnell—the COMDEX of XA-1b and the biggest show in the world. Bunnell is a multibillionaire after selling his stock in Sirius Computers, the leading maker of DEC clones.

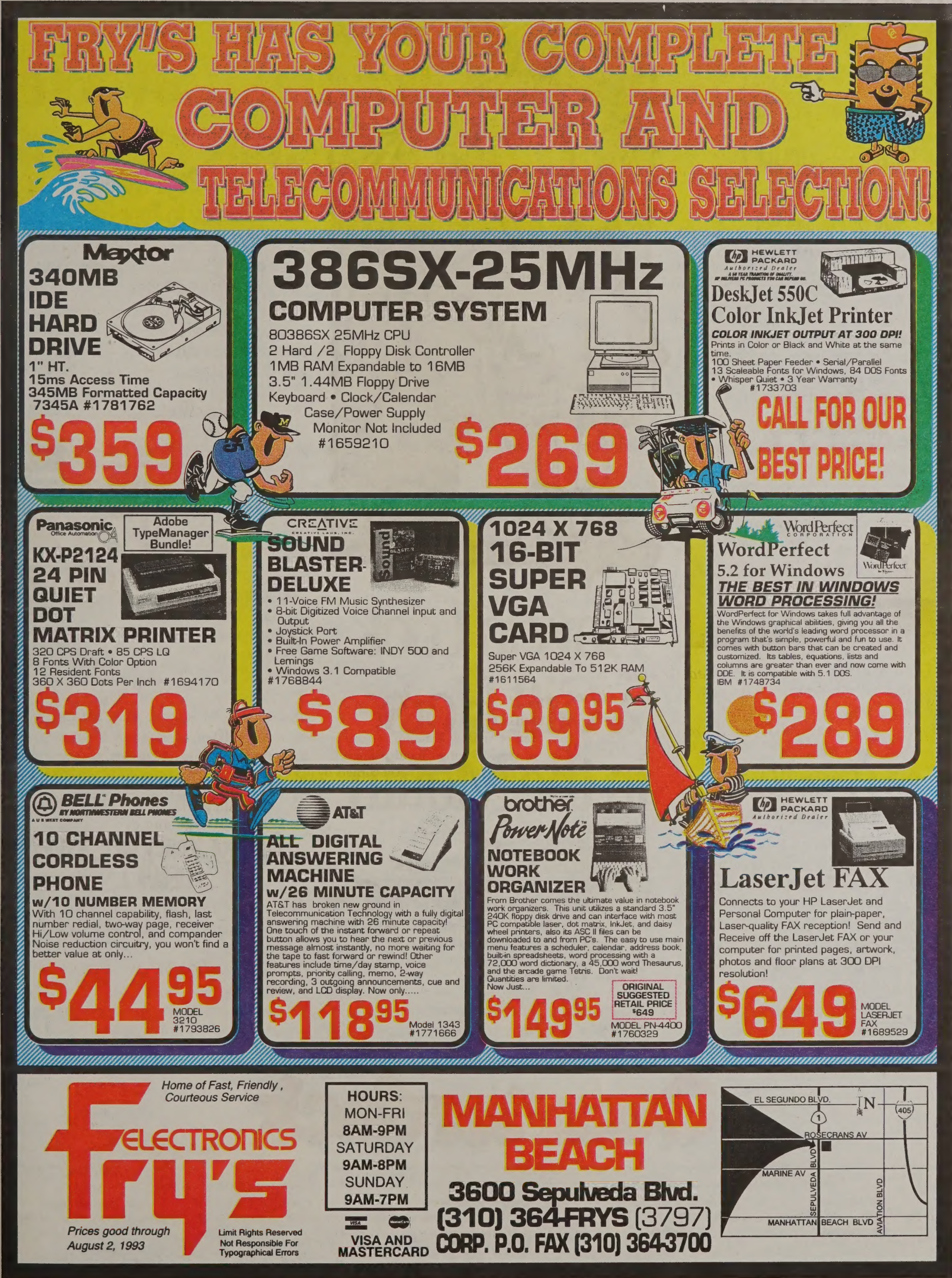
DEC is the dominant computer company worldwide, especially since it invented the hot DEC/DC (DC=desktop computer). The DC clone business was perfected by a slew of cloners including IBM, Burroughs (a small startup) and the leading mainframe company, Apple.

It was so confusing I had to find Bill Gates and find out what's happening in the industry and where everyone was. Gates is the leading financial analyst for Hambrecht & Kleiner.

Gates is annoyed and somewhat disbelieving when you tell him that his namesake in the standard universe (the Cal professors call it World XA-1a) is a well-known billionaire. "It's hard to believe it," he says. "And it's particularly hard to imagine something called an IBM PC and that IBM is a leading company. It's too weird to contemplate."

According to Gates, here is the status of major personalities:

- **Mitch Kapor** (in XA-1a, cofounder of Lotus)—Never known to be involved in computers, but well-known as a great French-style chef at a Boston restaurant called Mitch's Bistro. Lotus Development exists in XA-1b, but they're strictly a maker of power strips renowned for their hand-painted designs. The strips are sold on street corners by hippies.
- **Jim Manzi** (in XA-1a, CEO of Lotus)—The first world-class cricket player to come from the United States.
- **Microsoft**—Stuffed doll maker.
- **Steve Ballmer** (President of Microsoft)—TV psychic, best known for accurately predicting that the President of the United States, **Gary Hart**, would have a nosebleed during the State of the Union speech while attempting to give the speech in Pig Latin. His trademark on TV is that he closes out his show, each and every week, by force belching the words "See you next time!"
- **Larry Ellison** (CEO of Oracle Software)—Soap opera actor who plays Luke in *Day in the Life*, the hottest series on TV. Curiously, in the same series **Mary Eisenhart** (kindhearted editor of *MicroTimes* in World XA-1a) plays a mean-spirited evil woman with a British accent. Go figure!
- **Steve Jobs** (cofounder of Apple)—Jobs is the top investment banker in the world, and unfortunately tubbed out to nearly four hundred pounds. Known as, and calls himself, "Fat Steve from Jersey." Famous for world championship distances in the International Cherry Pit Spitting Contest.
- **Steve Wozniak** (cofounder of Apple)—Software designer known for inventing Pascal! Largely responsible for making Pascal the standard desktop computer language. BASIC is entirely unknown in World XA-1b.
- **John Sculley**—The US Ambassador to Singapore. Never involved with computers. Known for writing a book in which he whines incessantly about how hard it is to program a VCR.
- **Philippe Kahn**—CEO of Borland International, a maker of software for the Tramiel 64 home computer—a cartridge machine. Philippe, a former ballet dancer, always wears a black suit and greets everyone with the words, "Uh, and WHAT I can DO you for?" Known for an amazing ability to mock Curly of the Three Stooges.
- **Ray Noorda** (Novell in XA-1a)—Aeronautical engineer best known for designing the Boeing-Douglas 947 jumbo jet. A recluse nowadays after trying to promote a personal jet copter. Very wealthy. As a lark he had the hand of a former partner surgically grafted onto the top of his head two years ago and can make it wave "hello."
- **Paul Brainerd** (Aldus)—Owns a paper mill. Has very long hair and has been trying to reinvigorate the hootenanny craze of thirty years ago. Has three "sing along" albums out.
- **Scott Cook** (Intuit)—Sole owner of Cook's of Hollywood, a store specializing in sexy lingerie for women. Best known as a part-time inventor. Holds over four hundred patents including one for a chicken cooking basket that fits inside the car engine compartment and uses engine heat to cook. Head of a number of energy conservation "nutball" organizations. Tried to criminalize hyperventilation.
- **John Akers** (former CEO of IBM)—Police detective who writes novels. Last book: "Bad, Blue and Full of You."
- **John C. Dvorak** (columnist)—Market director for the largest manufacturers of egg timers and battery-powered swizzle sticks. Known for a Guinness World record where he walked up fifty flights of stairs hand-standing. (Oh well!) ■



FRY'S HAS YOUR COMPLETE COMPUTER AND TELECOMMUNICATIONS SELECTION!

Maxtor

340MB IDE HARD DRIVE

1" HT.
15ms Access Time
345MB Formatted Capacity
7345A #1781762

$359

386SX-25MHz COMPUTER SYSTEM

80386SX 25MHz CPU
2 Hard /2 Floppy Disk Controller
1MB RAM Expandable to 16MB
3.5" 1.44MB Floppy Drive
Keyboard • Clock/Calendar
Case/Power Supply
Monitor Not Included
#1659210

$269

HEWLETT PACKARD
Authorized Dealer
A 50 YEAR TRADITION OF QUALITY.
HP DELIVERS PC PRODUCTS YOU CAN DEPEND ON.

DeskJet 550C Color InkJet Printer

COLOR INKJET OUTPUT AT 300 DPI!

Prints in Color or Black and White at the same time.
100 Sheet Paper Feeder • Serial/Parallel
13 Scaleable Fonts for Windows, 84 DOS Fonts
• Whisper Quiet • 3 Year Warranty
#1733703

CALL FOR OUR BEST PRICE!

Panasonic
Office Automation

Adobe TypeManager Bundle!

KX-P2124 24 PIN QUIET DOT MATRIX PRINTER

320 CPS Draft • 85 CPS LQ
8 Fonts With Color Option
12 Resident Fonts
360 X 360 Dots Per Inch #1694170

$319

CREATIVE
CREATIVE LABS, INC.

SOUND BLASTER-DELUXE

- 11-Voice FM Music Synthesizer
- 8-bit Digitized Voice Channel Input and Output
- Joystick Port
- Built-In Power Amplifier
- Free Game Software: INDY 500 and Lemings
- Windows 3.1 Compatible

#1768844

$89

1024 X 768 16-BIT SUPER VGA CARD

Super VGA 1024 X 768
256K Expandable To 512K RAM
#1611564

$39.95

WordPerfect
CORPORATION

WordPerfect 5.2 for Windows

THE BEST IN WINDOWS WORD PROCESSING!

WordPerfect for Windows takes full advantage of the Windows graphical abilities, giving you all the benefits of the world's leading word processor in a program that's simple, powerful and fun to use. It comes with button bars that can be created and customized. Its tables, equations, lists and columns are greater than ever and now come with DDE. It is compatible with 5.1 DOS.
IBM #1748734

$289

BELL Phones
BY NORTHWESTERN BELL PHONES
A U S WEST COMPANY

10 CHANNEL CORDLESS PHONE w/10 NUMBER MEMORY

With 10 channel capability, flash, last number redial, two-way page, receiver Hi/Low volume control, and compander Noise reduction circuitry, you won't find a better value at only...

$44.95

MODEL 3210
#1793826

AT&T

ALL DIGITAL ANSWERING MACHINE w/26 MINUTE CAPACITY

AT&T has broken new ground in Telecommunication Technology with a fully digital answering machine with 26 minute capacity! One touch of the instant forward or repeat button allows you to hear the next or previous message almost instantly, no more waiting for the tape to fast forward or rewind! Other features include time/day stamp, voice prompts, priority calling, memo, 2-way recording, 3 outgoing announcements, cue and review, and LCD display. Now only.....

$118.95

Model 1343
#1771666

brother

PowerNote

NOTEBOOK WORK ORGANIZER

From Brother comes the ultimate value in notebook work organizers. This unit utilizes a standard 3.5" 240K floppy disk drive and can interface with most PC compatible laser, dot matrix, InkJet, and daisy wheel printers, also its ASC II files can be downloaded to and from PC's. The easy to use main menu features a scheduler, calendar, address book, built-in spreadsheets, word processing with a 72,000 word dictionary, a 45,000 word Thesaurus, and the arcade game Tetris. Don't wait! Quantities are limited.
Now Just...

$149.95

ORIGINAL SUGGESTED RETAIL PRICE $649

MODEL PN-4400
#1760329

HEWLETT PACKARD
Authorized Dealer

LaserJet FAX

Connects to your HP LaserJet and Personal Computer for plain-paper, Laser-quality FAX reception! Send and Receive off the LaserJet FAX or your computer for printed pages, artwork, photos and floor plans at 300 DPI resolution!

$649

MODEL LASERJET FAX
#1689529

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

Prices good through August 2, 1993

Limit Rights Reserved
Not Responsible For Typographical Errors

HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

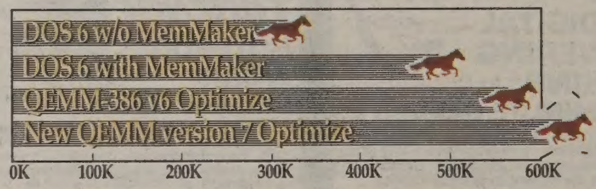
VISA AND MASTERCARD

MANHATTAN BEACH

3600 Sepulveda Blvd.
(310) 364-FRYS (3797)
CORP. P.O. FAX (310) 364-3700

DOS 6 DOS 6 DOS 6 DOS 6
DOS 6 DOS 6 DOS 6

How to Look a Gift Horse in the Mouth



We tested DOS 6 with and without MemMaker and QEMM6 and our new QEMM 7 runs away from all of them. See details of test conditions listed below.

Even a *free* memory manager may not be a bargain—especially if it can't give you all the memory you need.

Introducing QEMM 7 The Memory Manager Worth Paying For

The newest version of QEMM, version 7, pioneers new ways of using the critical area between 640K and 1024K. It optimizes this area, taking into account the many drivers that need more memory at start-up than when running; instantly calculating millions of possible memory configurations to find still more memory for your applications, TSRs and utilities to use.

Instant Riches

What does more memory mean in a practical sense? It means that your DOS and MS Windows programs run faster, smoother and more reliably. It means you can continue to add valuable utilities, drivers, TSRs and new capabilities to your PC. Whether it's workhorse drivers like LAN utilities and fax drivers; productivity-enhancers like disk caches and disk compressors; or fun and exciting capabilities like sound boards, CD ROM drivers, graphics tablets, etc. The better your memory is managed, the more versatility and flexibility your PC will have. QEMM 7 lets you have it all without fear of 'out of memory' messages or crashes.

The #1 memory manager for DOS & Microsoft Windows
#1

DOS 6 Giveth; DOS 6 Taketh Away

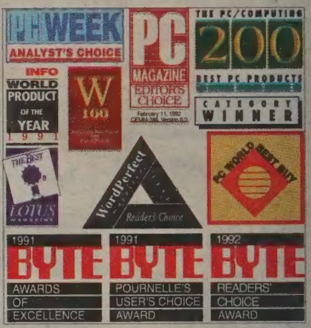
The best feature of new DOS 6 is the stable of utilities it includes. Trouble is, they all eat up memory. DoubleSpace file compression needs 43K, Vsafe anti-virus needs 7-45K, Smartdrv disk cache needs 28K and even Undelete takes 10-14K as a resident program. Using MemMaker, you could easily lose—not gain— available 'conventional' memory in DOS 6.

New QEMM 7 takes the best of the new DOS 6 features into account, finding ways to cut memory demands for these utilities by up to 80%, ensuring that the all-important memory below 640K is free for your programs. And QEMM 7's seemingly small feature of supporting DOS 6's multiple configurations gives you the flexibility and ease of setup that you expect. (MemMaker doesn't work well with this important DOS 6 feature.)

Page Frame: the Key to Your Future

There's been a lot of jealous talk about our patent-pending Stealth technology. Nobody else can duplicate its 48-115K gains.

The key to Stealth is its use of a 64K reserved area above 640K called the page frame. Besides being used by Stealth, the page frame lets Lotus 1-2-3 r2.x run larger spreadsheets and WordPerfect 5.x larger documents. It's also used by DESQview for multitasking, Novell Netware, IBM LAN Server and DECnet for reducing the network driver memory footprint, plus games for fast action. You sacrifice all this when other memory managers turn off the page frame. Stealth saves you room to set up your PC with a mouse, CD ROM, sound board, a network such as Novell NetWare, create 8-24K of extra memory for optimal MS Windows performance, use all of DOS 6's memory-hungry utilities and still have more than 630K to run applications smoothly and safely.


PC WEEK
ANALYST'S CHOICE
PC MAGAZINE EDITOR'S CHOICE
February 11, 1992
QEMM-386 Version 6.0
THE PC/COMPUTING 200
BEST PC PRODUCTS
CATEGORY WINNER
INFO WORLD PRODUCT OF THE YEAR 1991
W 100
THE BEST LOTUS MAGAZINE
WordPerfect Reader's Choice
PC WORLD BEST BUY
1991 BYTE AWARDS OF EXCELLENCE
1991 BYTE POURNELLE'S USER'S CHOICE AWARD
1992 BYTE READERS' CHOICE AWARD

Prior versions of QEMM won just about every competition in sight, as well as remaining the #1 best-selling memory manager 5 years straight.

Put Your Money on a Winner QEMM 7

The new and ever more exciting capabilities coming to your PC will all compete for memory with your favorite applications, TSRs and drivers. And that makes QEMM 7 the most vital utility you can own.

Our seventh-generation memory manager is a thoroughbred that helps you get the most out of your PC today and tomorrow.

Quarterdeck

How we got the chart numbers CPU—486/33 ALR Power/business VEISA machine equipped with 16 megs of RAM and running MS-DOS 6. Comparisons were done using the following memory managers: QEMM 7, QEMM 6.02, MS-DOS 6 MemMaker. In addition to the driver (or drivers) required by each memory manager, the following drivers, DOS resources and programs were loaded for all comparisons: in the CONFIG.SYS file: SETVER.EXE, DOS=HIGH, FILES=20, BUFFERS=10, STACKS=0.0, MVSOUND.SYS, SNDBK12.SYS, SLCD.SYS, DOS SHELL=statement, in the AUTOEXEC.BAT file: VSAFE, MSCDEX, UNDELETE, LSL.COM, NE2000.COM, IPXODI.COM, NETX OR EMSNETX, MOUSE.COM, SMARTDRV.COM, PRTSCCAP.COM. ©1993 Quarterdeck Office Systems. Trademarks are property of their respective owners.

Computerland
Newport Beach (714) 476-8360

Compuclassics
Canoga Park (818) 347-7500

Software Supermarket
Los Angeles (310) 477-5122

Egghead
Los Angeles (310) 477-1577

Quantum Microsystems
Northridge (818) 886-4276

Dustin America
Woodland Hills (818) 710-9174

PCS
Oxnard (805) 984-9656

Comp USA
(formerly Softwarehouse)
Torrance (310) 540-0593
Fountain Valley (714) 965-0580

Software Etc.
Northridge (818) 993-9167

Super Computer Center
Fountain Valley (714) 754-1166
Torrance (310) 542-8977

Microage
Century City (310) 552-2211